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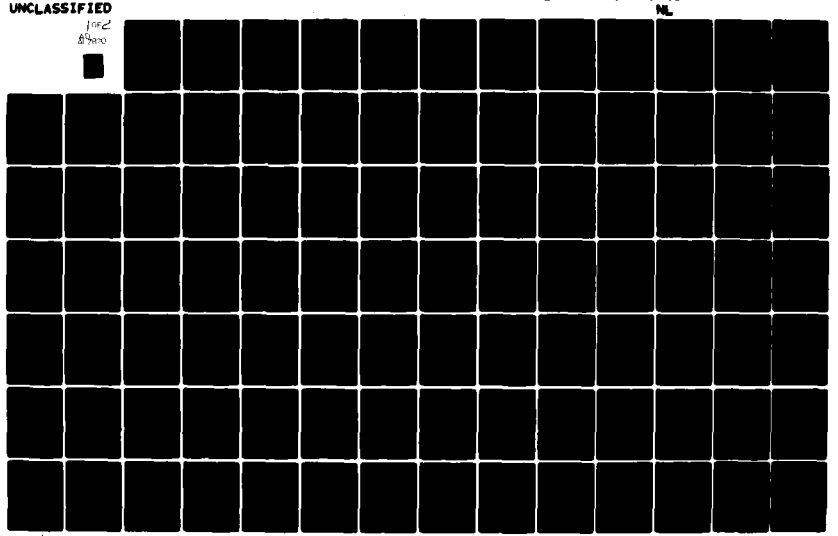

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RESEARCH AND DEVELOPMENT OF PSYCHOLOGICAL CONSIDERATIONS IN DENTISTRY

Final Report

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Despite attempts by the Army to ensure that all personnel receive regular dental care, substantial manpower loss occurs in field situations because of preventable dental emergencies. The purpose of this study is to identify factors which correlate with both starting and completing dental treatment.

Dental records at two posts (Fort Bragg and Fort Stewart) were screened

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Psychological factors which show a positive association with starting and/or completing treatment include: perceptions of Army dentists as technically competent and as concerned with patients; perceptions of dentists in general as concerned with patients; and belief that dental care is important in the Army. Both anxiety with respect to dental care and perceptions of dental care as painful correlate negatively with receipt of care.

External factors which affect treatment status include the quality of dentist-patient communication, ease of access (ability to get off duty, availability of specific appointments, and length of wait at the clinic), and peer and supervisor encouragement.

When asked their opinions about the failure of Army personnel to obtain needed dental treatment, the respondents offered reasons which basically paralleled those which emerged from the statistical analysis. However, respondents also suggested that a lack of knowledge about and concern with dental health is a determinant.

Suggestions for increasing personnel use of dental services include two different educational efforts, one targeted toward all personnel, the second toward supervisory personnel. In addition, possible modifications of dental service policies and procedures were noted. Finally, the interrelationships of these three approaches were emphasized.

SUMMARY

Despite attempts by the Army to ensure that all personnel receive regular dental care, substantial manpower loss occurs in field situations because of preventable dental emergencies. The purpose of this study is to identify factors which correlate with both starting and completing dental treatment.

Dental records at two posts (Fort Bragg and Fort Stewart) were screened to identify three groups of personnel: those who were diagnosed as needing treatment by the Army Dental Service but who did not start such treatment; those who broke off treatment, and those who completed it. Data from those screened were obtained by means of self-administered questionnaires; a total of 243 usuable questionnaires were collected at Fort Bragg and 207 at Fort Stewart. In the data analysis, two separate measures of treatment status were used: one based on dental record data, the other on self-report data.

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FOREWORD

We are grateful to Drs. Irwin Mandell and Mata K. Nikias for their suggestions for this study. In addition, we want to acknowledge the cooperation and help generously and graciously provided by many Army personnel, Cols. William Posey, Ronald Barton and Joseph Kazlewski and specialist Helen Glass of the A.I.D.R., and Col. Sheldon Jacobsen of La Flamme Dental Clinic, Fort Bragg.

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Chapter I

INTRODUCTION

Background and Purpose

A major goal of the Army is to minimize personnel attrition in field and combat situations because of extra-mission factors. This includes minimizing the loss of personnel because of medically preventable casualties.

A recent study established that dental emergencies represent a substantial drain on manpower in field situations.[1] Further, the same study showed that nearly all of these dental emergencies were preventable by routine dental care. These figures are all the more striking since clear and definite procedures exist to ensure that Army personnel routinely obtain dental care which at a minimum would preclude the occurence of dental casualties because of endogenous disease processes. For example, all inductees are screened by dental x-rays and referred to the Army dental service when a potential problem is detected. Further, once a year, in their birthday month, all personnel are notified that they should report to the dental service for an examination. Again, where a problem is identified, the soldier is supposed to be given necessary treatment. In addition, personnel may go on their own to either the Army dental service or a civilian dentist for examination and/or treatment. Given the ability of modern dentistry to prevent emergencies because of endogenous disease processes, the fact that a significant number of dental casualties occur in field situations indicates that for some reason Army procedures

are not ensuring adequate utilization of services by Army personnel.

A knowledge of the factors which affect compliance with these procedures would permit the Army to develop programs to increase the level of compliance and so reduce the level of preventable dental casualties. The Centers for Community Health (C.C.H.), Faculty of Medicine, Columbia University contracted with the Army Institute of Dental Research (A.I.D.R.) to survey Army personnel to determine obstacles to the use of dental services.

Previous Research

There is a large body of data on the utilization of dental services in the general population, much focussing on socio-demographic predictors of use. In spite of the fact that studies have used different measures of utilization, research has consistently shown strong relationships between use and age (negative), income (positive), sex (women being higher users), race and ethnicity (minority group members being lower users), education (positive),occupational status (positive), and geography (people in rural areas using dental services less than residents of urban areas). [2,3,4,5,6,7,8]

While these correlates of dental utilization have been established, explanations for them are still wanting. For example, despite the very strong relationship between dental visits and income, cost is not cited in surveys as one of the main reasons why individuals fail to seek care. In addition, studies of special situations where financial barriers have been lessened or removed by insurance show that differences in use of dental services by social class continue,[9,10] while studies of financed dental care programs for low income groups reveal that they tend to be

underutilized.[11,12,13] (The same results obtain with respect to availability of and access to care.)

The best predictor of current dental behavior appears to be past dental behavior,[14] and children tend to show patterns of dental utilization similar to those of their parents.[15] With respect to seeking dental care per se, the single best predictor is the presence of one or more symptoms. At the same time, nearly 10 percent of the population state that they do not go for checkups because of anxiety or fear of pain.[16,17] The context and manner in which a patient is notified of the need for care has been shown to affect the outcome of a referral.[18] There is some evidence that the patient's experience in the dental office and the nature of the dentist-patient relationship influence the decision by the patient to continue care until treatment is completed.[19] Finally, modifications in appointment-making procedures -- reminders, scheduling at a time convenient to the patient, follow through on broken appointments and personal interest in the patient on the part of the dentist and staff -- lead to a drop in the rate of broken appointments.[20,21]

These data do suggest variables which may be relevent to our concerns. However, it should be kept in mind that the Army situation differs from that of the civilian population on three counts: 1) While cost may be a significant deterent to obtaining dental care in civilian life, it is not a consideration in the Army; 2) Access to and availability of a dentist varies for civilians but is very similar for personnel on a post; and 3) The patient in the Army has been screened and informed of the need for dental care whereas the utilization of dental care in civilian life, both evaluation and treatment, is initiated by the patient.

Given the distinctive Army situation, it would appear that psychological variables (perceptions, beliefs, attitudes, and motivations) rather than structural constraints (cost and access) and system characteristics (implementation of procedures) are the critical determinants of care. Indeed, the primary focus of this study is on psychological variables. However, it is also possible that procedures in a large and complex organization such as the Army are not always implemented uniformly. Thus, this study will also examine extra-individual factors, both the implementation of procedures and the interface between patient and dental care, as predictors of utilization. Our goal is to identify those factors which affect the utilization of dental care by Army personnel and are susceptible to change.

Specific Aims

As noted, this study rests on two general hypotheses:

1) *Utilization of dental care in the Army is influenced by psychological variables.*

2) Despite the fact that cost and access as normally defined are not operative factors in the Army situation, it is possible that Army and dental service characteristics also influence utilization.

The specific aim of this study is to identify concrete factors which influence the effective utilization of dental services by Army personnel. This entails an examination of the relationship between utilization and possible predictors. The predictors included in this study are those psychological or system variables which either previous research or our hypotheses suggested might be relevant to the Army situation.

Psychological factors include those demographic characteristics on which we were able to obtain reliable data for a significant portion of the personnel included in our sample, specifically age, rank and level of education at the time of our survey, as well as age at which the respondent joined the Army. They also include the following:

1) Perceptions of dentists and dentistry in general re. both technical effectiveness and the dentist patient relationship.

2) Perceptions of Army dentists and dentistry in terms of the same dimensions.

3) Perceptions of differences between Army dentists and dentists in general in terms of training, equipment, etc.

4) Perceptions of the importance of dental health and dental care in the Army situation.

5) Values and behavior re. teeth and dental care, the importance of preserving teeth, the importance of teeth from an aesthetic or vanity perspective, the role of the patient in maintaining dental health, and readiness to seek dental treatment.

6) History of dental problems, perceptions of current dental health, and use of dentists and preventive procedures.

7) Anxiety re. dental care, level of perceived pain associated with dental care, nervousness re. going to the dentist.

The system variables fall roughly into three areas:

1) Personnel reports of Army obstacles to treatment.

2) Personnel reports of dental service obstacles to treatment.

3) Personnel description of communication between the respondent on the one hand and both the Army and the dental service on the other.

Chapter II

METHODOLOGY

Design and Sampling

The design for this study proposed a sample of 750 personnel identified by the Army Dental Service as requiring treatment, to be drawn from two posts (350 each), and stratified by treatment status and rank. Two posts, Fort Bragg and Fort Stewart, were selected to control for the possibility that idiosyncratic variations at a particular post, whether in procedures, personnel or some other factor, would significantly affect the results.

Treatment status categories were defined as follows:

1) Personnel who did not receive any of the recommended treatment.

2) Personnel who started but did not complete treatment.

3) Personnel who completed treatment

This design takes into account the possibility that there might be a qualitative difference between those who do not start treatment versus those who began but failed to complete it. Each category was to include 250 respondents, 125 from each post.

The stratification by rank (100 enlisted men and NCO's plus 25 officers in each category at each post) reflected our perception of the importance of rank as a determinant of an individual's situation and behavior in the Army.

To identify the personnel to be sampled for the study, a member of the A.I.D.R. staff familiar with Army dental records was sent to each

post two to three months before data collection was scheduled. A systematic sampling procedure was used: beginning with the third record on file in the post dental service, every fifth record was flagged. Three types of records were to be excluded: those of personnel who had been in the Army less than four months; those of personnel who came for emergency dental care; and those of personnel whose last diagnostic examination was less than one month before this record review. In anticipation of a certain amount of attrition, 120 enlisted personnel and 35 officers in each category at each post were to be identified.

Identification of personnel who had completed treatment was fairly straightforward. However, classification in terms of the other two categories, no treatment or break-off, was to some extent based on judgement. The key judgement involved time, specifically the interval since last contact with the dental service. Different posts schedule appointments for dental treatment differently. In some, an individual may be told to return within the week, while in others, the usual interval is longer. In this study, the lapse of twice the usual appointment interval for that post since last contact was assumed to indicate that no further contact would take place. Thus, placement of an individual into the "no treatment" category involved a record of dental problems requiring treatment, the absence of any record of treatment for those problems, and the lapse of twice the usual appointment interval since the diagnostic examination. Classification as a "break-off" required a record of at least 20 percent of the dental work done and the lapse of twice the appointment interval. This procedure does introduce a possible error in the categori-

zation of treatment status since the time criterion is arbitrary and it is possible that some individuals eventually return for treatment.

Once all personnel identified in the first sampling cycle were classified by treatment status and rank, the procedure was to be repeated, beginning with the fourth record in the file, until the specified number of subjects were obtained.

A total of 843 individuals were identified by this process, a figure roughly midway between the 935 specified and the 750 to be included in the study. Slightly more were identified at Fort Bragg than at Fort Stewart: 441 versus 402. The shortfall at both posts was concentrated in the middle group, those where treatment was broken off; the actual numbers are 101 at Fort Bragg and 133 at Fort Stewart compared to the 155 specified. It should also be noted that officers were underrepresented among the personnel identified in our screening effort, particularly at Fort Stewart. A total of 105 officers from each post were to be included in this pool, but the actual total was 87 at Fort Bragg and 18 at Fort Stewart. (It seems that many officers choose to keep their medical records when reporting to a new post rather than handing them over to the post dental service.)

Data Collection

Two source of data were used: Army dental records and a self-administered questionnaire. Dental record data were abstracted during the initial screening process, and included treatment status (completed, broken-off, not started), purpose of contact with the Army dental service (induction examination, annual examination, or some other reason), data of the examination, and subject's sex, ethnicity

(often missing), rank and birthdate. (See Appendix A for a copy of the abstract form used.)

The second and major source of data was a self-administered questionnaire (Appendix B) filled out by personnel at the two posts. This questionnaire, which required approximately 30 minutes to answer, provided our data on both psychological and system variables. In addition, it asked about demographic data and the most recent use of the Army dental service. This last involved a series of questions including one on the outcome of such use -- whether the respondent had completed the recommended treatment, was still in the process of obtaining it, or had broken off treatment.

It should be noted that neither the content nor the format of the questionnaire entirely reflects the professional judgement of project staff; rather it represents a compromise negotiated between the project staff and personnel of the Soldier Support Center, the approval of which is required for surveys in the Army. There is no doubt that the questionnaire benefitted from this negotiation process, in large part because of the knowledge of Army policies and procedures which personnel of the Soldier Support Center have. At the same time, however, we believe that this process led to a failure to obtain certain key pieces of data, e.g., on system factors, as well as other problems.

As the first step in administration of the questionnaire, a list of the names, rank, social security numbers and units of all personnel identified in the initial screening was given to the project liasion officer at the post's dental service. The responsibilities of the liasion officer included scheduling both the time and place for administration of the questionnaire and arranging for the personnel in our sample to report

to the site at appropriate times.

Data collection at Fort Bragg was scheduled for three days in the middle of August 1981. However, since less than 100 respondents actually reported during that period, the data collection process was continued on an individual basis by dental service personnel to the end of September. At Fort Stewart, data collection was completed during the three days scheduled in the early Fall.

At Fort Bragg, a total of 243 completed questionnaires were obtained, 51 from officers. An additional seven questionnaires were filled out by personnel who were not part of the sample, that is, identified in the initial screening, but these were excluded from the analyses. Thus, the size of our sample at Fort Bragg in approximately one third less than planned.

At Fort Stewart, 207 completed questionnaires were obtained, only 11 from officers. Even more, in arranging for administration of the questionnaire, the liasion officer was unable to match the names from the dental records with the roster of personnel at Fort Stewart. (In a number of cases, it was established that the dental records were of personnel no longer at the post or even in the Army.) However, instead of scheduling only those personnel who had been screened and could be located to take the questionnaire, she decided on her own to replace those who could not be traced with an equivalent number of personnel matched on rank. Of the 207 respondents from Fort Stewart, only 44 had been screened, and no dental service record data was available for the other 163 respondents who answered the questionnaire.

In short:

1) The sample size is only 60 percent of that specified, 41

percent in the case of officers.

2) Nearly 80 percent of the respondents at Fort Stewart were outside the sampling frame; thus, the Fort Stewart sample is not comparable to that from Fort Bragg. Further, since no dental record data were obtained for the great majority of respondents at Fort Stewart, we cannot study the correlates of treatment status in the group, and so replicate any results we obtain at Fort Bragg.

Data Analysis and Treatment Status

What can be done in the data analysis to compensate for these problems? Although record data on treatment status are only available for the Fort Bragg sample, the respondents in both samples were asked the following question (# 90):

> "If at your last check-up, you were told that you should get some dental work, did you have all this dental work done?"

Responses to this question could be used to sort personnel into three categories which are roughly comparable to the treatment status categories derived from the dental records. These are:

1) Completed all the dental work.

2) Still getting dental work.

3) Did not complete the dental work.

(It should be noted that not all respondents who answered the question fall into one of these three categories, e.g., those who report that they did not need dental work or were not told anything after the examination as well as those who do not remember whether or not they required dental care.)

If these two different measures of treatment status significantly tap the same phenomenon it would be possible to use them for comparative purposes. To determine the extent to which the measures indeed overlap, we

looked at their relationship among those respondents at Stewart and Bragg where both sets of data were available. Despite the fact that one measure is based on record data, the other on self-report, and that only one category, that of completed treatment, is identical, the results in Table 2-1 show a strong association between the two measures, a contingency coefficient of 0.42.

In light of this, it was decided to undertake a tri-fold examination of the relationship of psychological and system variables to treatment status. The analysis of the 245 respondents at Bragg, for whom record and questionnaire data are available, will examine the relationship of our independent variables to both measures of treatment status, self-report as well as dental records. The analysis of the 207 respondents at Fort Stewart will examine the same relationships, but only with respect to the self-report measure since record data was available for only 44 individuals, a number too small to yield any kind of reliable result.

This approach permits us to determine whether relationships are observed despite differences in the measures used and in the sampling procedures followed. In an ideal world only two patterns of association would be observed: statistically significant under all three conditions or not significant in any. Since this does not appear to be an ideal world, we will use the following arbitrary criterion for evaluating the results. If a relationship is observed at the .10 level, two-tailed test (the equivalent of the .05 level, one-tailed test) in two of the comparisons, we will assume the relationship is valid.

This approach permits us to use both samples. However, there is still the problem of decreased reliability because of reduced sample size,

TABLE 2-1

Relation of Two Measures of Treatment Status:

Dental Records and Self-Report

	Record Classification		
	Completed	Broken-Off	Not Started
Self-Report	%	%	%
Completed	50.6	13.9	17.9
In - Process	31.5	45.6	20.9
Not Started, Broken-off	18.0	40.5	61.2
N	(89)	(79)	(67)

Chi Square 48.94

$p < .0000$ 4 d.f.

a situation which limits the likelihood of discovering statistically significant relationships. One way of compensating for this is by collapsing the three treatment status categories in the analysis so as to make two distinct comparisons using the same data set. For example, when our dependent variable is treatment status based on dental records, we can:

1) Compare those who did not start treatment, with those who did (whether or not they completed it) to identify those factors which appear to relate to starting treatment.

2) Compare those who completed treatment with those who did not (whether or not they started) to identify those factors which appear to lead to the completion of treatment.

Analogously, when our dependent variable is treatment status based on self-report, we can:

1) Compare those who broke off treatment (many of whom never started) with those who report they either completed or are still in the process of receiving treatment.

2) Compare those who completed treatment with those who did not.

These two sets of comparisons are not completely identical, and the shifting of the middle categories may serve to obscure certain relationships. However, this approach not only helps compensate for the reduced sample size; it also helps to identify factors which differentially affect starting treatment versus completing treatment.

Finally, it should be noted that one element of the planned design, the separate analysis of predictors of utilization by rank, cannot be carried out given the small number of officers in the sample.

This approach appears plausible; further, we have one piece of data which suggests that it is empirically valid. All respondents were asked

the following question (#22):

"In your opinion, how healthy are your teeth and gums?"

1) "Healthier than most people's"
2) "About the same as most people's"
3) "Not as healthy as most people's"

The results of our analysis on the relationship of perceived dental health, as measured by responses to this question, to treatment status are shown in Tables 2-2 (starting vs. not starting) and Table 2-3 (completing vs. not completing). As we can see in Table 2-2, there is a tendency for those who started treatment to report better dental health than those who did not. While this relationship is statistically significant in one of three comparisons, overall it is not powerful. However, in the comparisons of those who completed treatment with those who did not, the tendency of the former to report better dental health is much stronger, statistically significant in all three comparisons.

These results are what we should expect. The fact that we found them is evidence for the validity of our analytic approach.

TABLE 2.2

Relationship of Perceived Health of Teeth and Gums

to Starting - Not Starting Treatment

	"Healthier than most people's	
	Started	Not Started
	%	%
Sample		
Record Data (Bragg)	28.1	22.2
N	(171)	(72)
		n.s.
Self-Report (Bragg)	30.1	15.3
N	(133)	(72)
		Chi Square 5.38
		p .02
Self-Report (Stewart)	29.7	20.0
N	(74)	(60)
		Chi Square 1.65
		p .20

TABLE 2-3

Relationship of Perceived Health of Teeth and Gums

to Completing - Not Completing Treatment

	% Healthier than most people's	
	Completed %	Not Completed %
Sample		
Record Data (Bragg)	40.0	18.5
N	(90)	(153)
	Chi Square	11.08
	p	.001
Self-Report (Bragg)	37.7	19.4
N	(61)	(144)
	Chi Square	7.59
	p	.01
Self-Report (Stewart)	37.1	21.2
N	(35)	(99)
	Chi Square	9.71
	p	.01

CHAPTER III

Psychological Correlates of Utilization

Introduction

This chapter will present the results of our analysis of the relationship between "psychological" factors and treatment. At times our classification of respondents in terms of these variables will be based on responses to a single question; more often however, indices will be used. These indices combine responses to related items to yield more reliable and valid measures, particularly of beliefs and attitudes. Whenever an index is used, this will be noted so that those who wish can refer to Appendix C to examine the specific items which were combined. The presentation of data will often be modeled on the discussion of the relationship of perceived dental health to treatment status; each variable will be examined twice, as it relates to starting or not starting treatment, and completing or not completing treatment. Finally, after we review those factors which appear to affect utilization, we will also specify those factors which apparently have no relationship or at most a borderline one with utilization.

Psychological Correlation of Utilization

Nine "psychological" variables meet our criterion of a significant association with treatment status. Data on the relationship of these variables to starting - not starting treatment is given in Table 3-1, to completing - not completing treatment in Table 3-2.

Three of these eight variables, the index of perceived technical competence of Army dentists, the index of perceived concern with patients by Army

TABLE 5-1 Relationship of Psychological Factors to Starting - Not Starting Treatment

	Started $\bar{x}$	Not Started $\bar{x}$	Significance t test
1. Technical competence of Army dentists *			
Record Data (Bragg)	9.11 (171)**	8.76 (72)	.1
Self-Report (Bragg)	9.37 (133)	8.39 (72)	.009
Self-Report (Stewart)	8.49 (74)	7.90 (60)	.1
2. Concern with patients by Army dentists			
Record Data (Bragg)	7.06 (171)	6.67 (72)	.12
Self-Report (Bragg)	7.38 (133)	6.26 (72)	.006
Self-Report (Stewart)	6.70 (74)	6.15 (60)	.08
3. Concern with patients by dentists in general			
Record Data (Bragg)	7.17 (171)	7.14 (72)	.15
Self-Report (Bragg)	7.59 (133)	6.90 (72)	.002
Self-Report (Stewart)	7.20 (74)	6.70 (60)	.03
4. Dental care is painful			
Record Data (Bragg)	6.95 (171)	7.49 (72)	.07
Self-Report (Bragg)	6.83 (133)	7.90 (72)	.001
Self-Report (Stewart)	6.92 (74)	7.95 (60)	.006

TABLE 3-1
(continued)

Relationship of Psychological Factors to

Starting - Not Starting Treatment

	Started	Not Started	Significance
	%	%	Chi Square
9. Nervous about returning for care after last dental examination			
Record Data (Bragg)	20.4 (147)	18.0 (61)	n.s.
Self-Report (Bragg)	15.0 (127)	32.8 (67)	.01
Self-Report (Stewart)	15.5 (71)	35.2 (54)	.02

TABLE 3-2

Relationship of Psychological Factors to

Completing - Not Completing Treatment

	Completed $\bar{x}$	Not Completed $\bar{x}$	Significance t test
1. Technical competence of Army dentists *			
Record Data (Bragg)	9.29 (90) **	8.84 (153)	.07
Self-Report (Bragg)	9.70 (61)	8.74 (144)	.000
Self-Report (Stewart)	8.91 (35)	7.98 (99)	.02
2. Concern with patients by Army dentists			
Record Data (Bragg)	7.29 (90)	6.75 (153)	.025
Self-Report (Bragg)	7.54 (61)	6.76 (144)	.004
Self-Report (Stewart)	7.17 (35)	6.20 (99)	.006
3. Concern with patients by dentists in general			

TABLE 3-2
(continued)

Relationship of Psychological Factors to
Completing - Not Completing Treatment

	Completed $\bar{x}$	Not Completed $\bar{x}$	Significance t test
8. Age when joined the Army			
Data Record (Bragg)	20.1 (88)	19.6 (153)	.11
Self-Report (Bragg)	20.1 (60)	19.4 (144)	.026
Self-Report (Stewart)	18.9 (32)	19.3 (92)	.47
	%	%	Chi Square
9. Percent nervous about returning for care after last dental examination			
Data Record (Bragg)	20.2 (85)	19.4 (143)	n.s.
Self-Report (Bragg)	10.3 (58)	25.7 (136)	.01
Self-Report (Stewart)	20.5 (34)	25.3 (91)	n.s.

dentists and the index of perceived concern with patients by dentists in general, all deal with our respondents' perceptions of dentists. Another three variables, the index of belief that dental care is painful, the index of nervousness about going for dental care, and the question asking whether or not they were worried about returning to the dentists after their last birthday or anniversary examination, also seem to fall into one cluster. Of the remaining three items, one, the index of belief in the importance of dental care in the Army stands by itself while birth year and age when joined the Army may be considered analogous.

Looking first at the three variables which deal with respondents' perceptions of dentists, we see that respondents who have faith in the technical ability of Army dentists (to save teeth, to prevent toothaches, to make teeth look better, and to control the pain of treatment) are more likely to begin treatment than those who do not. Further, this faith is even more powerfully related to completing treatment. These relationships make intuitive sense -- after all, why trust yourself to someone who you do not believe can do much for you. However, the data do not permit us to explicate the relationship between belief in Army dentists' competence and completing treatment. Are those who start off with a more positive attitude simply more likely to complete treatment, or does the treatment itself, once started, inspire more confidence in the dentists?

The two measures of perceived concern are based on identically phrased items from separate batteries of questions, one dealing with dentists in general, the other with Army dentists. In addition to asking about the degree to which dentists show that they care about patients, the items in these indices also ask how good dentists are at communicating with patients, that is explaining the problem and what will be done in the treatment process.

Both indices are equally useful in predicting who will start treatment, about the same as belief in technical competence. However, belief that Army dentists are concerned and communicate with patients is a more powerful predictor of completing treatment than it is of starting, while the belief that dentists in general are concerned with patients does not show this pattern. Possibly general beliefs may facilitate the start of treatment but perceived concern by the dentist who is actually treating you facilitates the completion of treatment.

The role of beliefs about the technical competence of and concern for patients by Army dentists are roughly the same with respect to both starting and completing treatment, with some slight indication that concern may be the more important. However, in addition to constructing an index of perceived concern by dentists in general, we developed a parallel one of perceived competence of dentists in general. This index showed no relationship to either starting or completing. It may be that perceived "concern" is a pervasive or general factor in obtaining dental care, while the role of perceived competence is specific to the Army situation, possibly because of skepticism about and ignorance of Army dentistry. (For example, one third of our respondents do not know how the Army recruits dentists, another third believe that the Army simply trains soldiers to be dentists; nearly 50 percent believe that Army dentists cause more pain than civilian dentists do and 60 percent believe they are more likely to extract teeth than civilian dentists.)

The data on pain and fear indicate that respondents who believe that dental care entails a great deal of pain are far less likely to start treatment than those who do not equate dentistry with pain. Our two measures of dental

anxiety also show a strong effect on the probability of starting treatment, though not of the same magnitude as the perception of pain. Pain is also a strong correlate of completing treatment, but dental anxiety per se is not.

Belief that dental care is important in the Army is moderately associated with starting treatment, but minimally related to completing treatment. Possible soldiers may be willing to try dental care if they believe it good to do so for the Army's sake, but this belief may not suffice to overcome the perceived drawbacks of completing such care.

Finally, older respondents are more likely to start treatment and to a lesser extent to complete it. This is surprising given previous research. Equally surprising is the relationship among respondents at Fort Bragg between age of joining the Army and treatment. On average those who are older are more likely to both start and complete treatment. Since this pattern is if anything reversed among respondents at Fort Stewart, this may be an artifact of the sampling process; or it may be that individuals who join the Army when young tend to come from backgrounds which do not emphasize dental health. However, it does raise the possiblity that the culture of the Army somehow discourages soldiers from getting into the habit of obtaining dental care.

Other Psychological Variables

Our analysis involved an examination of "psychological" variables other than those just discussed. One of these, belief in the technical competence of dentists in general and its lack of any correlation with utilization, has been noted. Others which also failed to show any relationship include:

1) Respondent's level of education.

2) An index of belief in the importance of preserving one's natural teeth.

3) An index of concern with personal appearance, including that of one's teeth.

4) An index of preventive orientation toward dental care.

5) An index of readiness to go to a dentist when symptoms appear.

6) An index of belief that dental disease can interfere with the functioning of Army personnel.

7) Feelings, both positive and negative, about the "needle."

8) Beliefs about the training and equipment of Army dentists compared to civilian dentists.

9) Unpleasant experiences with the dental service by peers.

10) Perceived equity, that is, the belief that officers get better care.

In addition to variables which were either clearly related or unrelated to treatment status, the analysis also yielded some borderline relationships, that is, where the results of all three comparisons were consistent and at least two of which were significant at the .20 level. These include:

1) An index of history of dental problems, the greater such history the more likely to both start and complete treatment.

2) An index of early (pre-Army) use of dental care, positively associated with both measures of utilization.

3) An index of dental locus of control, the belief that dental health can be significantly influenced by individual behavior, positively correlated with starting treatment -- but not with completing it.

4) Preference for civilian over Army dentists, negatively associated with completing treatment.

5) Belief that Army dentists are more likely to pull teeth than civilian dentists, negatively tied to both starting and completing treatment.

6) Rank, higher ranks more likely to complete treatment. (This relationship is observed only with self-reported measures of treatment status; the sampling of personnel by recorded treatment status precludes any such relationship.)

Summary

Perceptions of Army dentists as technically competent and as concerned with patients are positively associated with the probability of both starting and completing treatment. Perceptions of dentists in general as concerned with patients are positively correlated with starting treatment, less strongly with completing it. Belief that pain is part of dental care negatively relates to both starting and completing treatment. Dental anxiety is negatively associated, but more with starting treatment than completing it. The belief that dental care is important in the Army situation shows some relationship to starting treatment, little to completing it. Older personnel are more likely to start and complete treatment while the age at which a respondent joined the Army shows a positive but possibly artifactual relationship to starting treatment.

Chapter IV

SYSTEM CORRELATES OF UTILIZATION

Introduction

The goal of this study is to help explicate possible psychological influences upon Army personnel's utilization of dental services. Thus, the bulk of the data we collected dealt with psychological variables. Further, most of the data which we do have on system variables derive from one set of questions, a battery which attempted to trace what happened the last time a respondent was notified to go to the dental service for a birthday examination. However, there are some other points worth noting. First, the problems which were encountered in trying to match dental records and actual personnel at Fort Stewart raises the possiblity that there are system problems. Second, our measures of perceived competence of Army dentists and of perceived concern for patients by Army dentists and by dentists in general, both of which are strong correlates of utilization, include elements which touch upon the interaction between the individual and the system: the perceived ability of Army dentists to limit the pain of treatment and the perceived quality of dentist-patient communication. Finally, we have some data which suggest that the mechanism for notifying personnel to obtain their birthday examination does not always function as it shou'd.

Because of insistence by the Soldier Support Center, the questionnaire did ask respondents to indicate when they had last received a notice. However, in our first administration of the questionnaire at Fort Bragg, various personnel, officers, NCO's and enlisted men, spontaneously made the point that they had never received a birthday notice or, if they had, not for a number of years.

Consequently, all personnel taking the questionnaire were instructed to indicate on it both when they had joined the Army and when they had last received a birthday notification.

Of the 394 personnel who provided some information and who had been in the Army for more than one year, 33.7 percent specified that they had been notified in either 1980 or 1981, while another 30.5 percent reported having been notified but did not specify the year. At the same time, 4.1 percent indicated that the last time they had been notified was 1979 or earlier, and 31.7 percent claimed that they had never been notified. These data, based on recall, obtained in an ad hoc fashion, and provided by only part of our sample, are far from perfect. However, despite these flaws, these data suggest that the system for notifying personnel of the "birthday" examination is also far from perfect.

System Correlates of Utilization

Data on system variables which significantly relate (by our criterion) to utilization are given in Table 4-1 (starting - not starting treatment) and Table 4-2 (completing - not completing treatment). All of the variables listed, with but one exception, come from the battery of questions (80-91) tracing what happened at a result of the last birthday notification. The one exception is an index of encouragement by significant others (peers and supervisor) to obtain dental care.

The different variables listed in the two tables appear to be of three types: those which refer to communication (reason given for birthday appointment, whether or not told the nature of the dental problem, and whether or not told that it was important to have the problem treated); ease of access to care (whether or not an appointment was given for the diagnostic examination,

TABLE 4-1

Relationship of System Variables to

Starting - Not Starting Treatment

	Started %	Not Started %	Significance Chi Square
1. Respondents dental health given as reason for examination			
Record Data (Bragg)	41.5 (154) *	25.4 (63)	.05
Self-Report (Bragg)	42.5 (120)	22.2 (63)	.01
Self-Report (Stewart)	37.9 (58)	45.2 (42)	n.s.
2. Appointment given for check-up			
Record Data (Bragg)	38.9 (157)	24.6 (65)	.05
Self-Report (Bragg)	34.2 (120)	29.0 (69)	n.s.
Self-Report (Stewart)	43.1 (65)	26.7 (45)	.08
3. Waited 2 hours or more for check-up			
Record Data (Bragg)	16.6 (169)	26.1 (69)	.09
Self-Report (Bragg)	13.0 (130)	26.4 (72)	.02
Self-Report (Stewart)	9.5 (74)	21.4 (56)	.07

	Started %	Started %	Significance Chi Square
1. Respondents dental health given as reason for examination			
Record Data (Bragg)	41.5 (154) *	25.4 (63)	.05
Self-Report (Bragg)	42.5 (120)	22.2 (63)	.01
Self-Report (Stewart)	37.9 (58)	45.2 (42)	n.s.
2. Appointment given for check-up			
Record Data (Bragg)	38.9 (157)	24.6 (65)	.05
Self Report (Bragg)	34.2 (120)	29.0 (69)	n.s.
Self Report (Stewart)	43.1 (65)	26.7 (45)	.08
3. Waited 2 hours or more for check-up			
Record Data (Bragg)	16.6 (169)	26.1 (69)	.09
Self-Report (Bragg)	13.0 (130)	26.4 (72)	.02
Self-Report (Stewart)	9.5 (74)	21.4 (56)	.07
4. Told nature of problem			
Record Data (Bragg)	96.0 (149)	82.5 (57)	.002
Self-Report (Bragg)	95.3 (129)	86.8 (68)	.04
Self-Report (Stewart)	91.8 (73)	80.4 (51)	.07
5. Told that important to return for treatment			
Record Data (Bragg)	73.6 (144)	57.1 (56)	.04
Self-Report (Bragg)	85.7 (123)	54.1 (61)	.001
Self-Report (Stewart)	75.8 (66)	57.7 (52)	.03
6. Appointment given for treatment			
Record Data (Bragg)	75.5 (151)	72.7 (55)	n.s.
Self-Report (Bragg)	80.0 (130)	65.7 (67)	.05
Self-Report (Stewart)	65.7 (70)	21.2 (52)	.0001
7. Supervisor discouraged going to last dental appointment			
Record Data (Bragg)	14.0 (107)	34.5 (55)	.01
Self Report (Bragg)	11.0 (91)	34.0 (47)	.002
Self Report (Stewart)	10.2 (20)	20.5 (68)	.20
	X	X	t test
8. Encouragement by significant others to obtain dental care.			
Record Data (Bragg)	5.65 (154)	5.60 (63)	n.s.
Self Report (Bragg)	5.68 (135)	5.51 (69)	.11
Self Report (Stewart)	5.80 (74)	5.32 (60)	.16

* Number of respondent given in parenthesis

TABLE I-2 Relationship of System Variables to Completing - Not Completing Treatment

	Completed $\bar{x}$	Not Completed $\bar{x}$	Significance Chi Square
1. Respondent's dental health given as reason for examination			
Record Data (Bragg)	46.9 (81) *	28.5 (136)	.02
Self-Report (Bragg)	40.7 (54)	33.3 (129)	n.s.
Self-Report (Stewart)	46.4 (28)	38.9 (72)	n.s.
2. Appointment given for check-up			
Record Data (Bragg)	42.2 (85)	30.2 (139)	.07
Self-Report (Bragg)	31.5 (54)	32.6 (135)	n.s.
Self-Report (Stewart)	60.0 (30)	27.5 (80)	.01
3. Wait 2 hours or more for check-up			
Record Data (Bragg)	9.0 (89)	25.5 (149)	.005
Self-Report (Bragg)	13.1 (61)	19.7 (142)	n.s.
Self-Report (Stewart)	11.4 (35)	15.8 (95)	n.s.
4. Told nature of problem			
Record Data (Bragg)	95.9 (74)	90.2 (132)	.15
Self-Report (Bragg)	96.7 (60)	90.5 (137)	.11
Self-Report (Stewart)	97.1 (34)	85.3 (90)	.08
5. Told [illegible]at important to return for treat[illegible]ent			
Record Data (Bragg)	76.4 (72)	64.8 (128)	.10
Self-Report (Bragg)	83.6 (55)	69.8 (129)	.06
Self-Report (Stewart)	80.6 (31)	63.2 (87)	.08
6. Appointment given for t eatment			
Record Data (Bragg)	82.9 (70)	70.0 (130)	.05
Self-Report (Bragg)	83.6 (61)	69.8 (136)	.07
Self-Report (Stewart)	84.8 (33)	52.6 (89)	.0001
7. Supervisor discouraged going to last last dental appointment			
Record Data (Bragg)	7.3 (55)	16.2 (87)	.01
Self Report (Bragg)	9.1 (33)	21.9 (105)	.15
Self-Report (Stewart)	0.0 (20)	19.1 (68)	.01
	$\bar{x}$	$\bar{x}$	t test

1. Respondent's dental health given as reason for examination			
Record Data (Bragg)	46.9 (81) *	28.3 (130)	.02
Self-Report (Bragg)	40.7 (54)	33.3 (129)	n.s.
Self-Report (Stewart)	46.4 (28)	38.9 (72)	n.s.
2. Appointment given for check-up			
Record Data (Bragg)	42.2 (85)	30.2 (139)	.07
Self-Report (Bragg)	31.5 (54)	32.6 (135)	n.s.
Self-Report (Stewart)	60.0 (30)	27.5 (80)	.01
3. Wait 2 hours or more for check-up			
Record Data (Bragg)	9.0 (89)	25.5 (149)	.005
Self-Report (Bragg)	13.1 (61)	19.7 (142)	n.s.
Self-Report (Stewart)	11.4 (35)	15.8 (95)	n.s.
4. Told nature of problem			
Record Data (Bragg)	95.9 (74)	90.2 (132)	.15
Self-Report (Bragg)	96.7 (60)	90.5 (137)	.11
Self-Report (Stewart)	97.1 (34)	85.5 (90)	.08
5. Told that important to return for treatment			
Record Data (Bragg)	76.4 (72)	64.8 (128)	.10
Self-Report (Bragg)	83.6 (55)	69.8 (129)	.06
Self-Report (Stewart)	80.6 (31)	65.2 (87)	.08
6. Appointment given for treatment			
Record Data (Bragg)	82.9 (70)	70.0 (130)	.05
Self-Report (Bragg)	83.6 (61)	69.8 (136)	.07
Self-Report (Stewart)	84.8 (33)	52.6 (89)	.0001
7. Supervisor discouraged going to last last dental appointment			
Record Data (Bragg)	7.5 (55)	16.2 (37)	.01
Self-Report (Bragg)	9.1 (33)	21.9 (105)	.15
Self-Report (Stewart)	0.0 (20)	19.1 (68)	.01
	$\bar{X}$	$\bar{X}$	t test
8. Encouraged by significant others to obtain treatment			
Record Data (Bragg)	3.57 (90)	3.70 (155)	.10
Self-Report (Bragg)	3.80 (61)	3.56 (144)	.068
Self-Report (Stewart)	3.63 (35)	3.61 (99)	n.s.

* Number of respondents given in parenthesis.

the length of wait at the dental service for that examination, and whether or not an appointment was given for follow-up treatment); and external facilitating or deterring factors (attitudes of significant others toward dental care and supervisor discouragement of the respondent's intention to keep the most recent dental appointment). It should also be noted that, by and large, the system variables tend to show somewhat stronger relationships than do psychological factors, even though the former involve smaller samples and are measured by single items rather than by indices.

Being told that the examination is for the respondent's dental health, having the nature of the dental problem explained and being told by the dentist that it was important to receive treatment, facilitates both starting and completing treatment, but clearly relates more strongly to the former.

With respect to east of access, being given an appointment for a check-up appears to correlate equally to both starting and completing treatment. However, waiting two or more hours for the diagnostic examination is far more strongly related to starting treatment than completing it, a pattern which makes intuitive sense. Finally, being given an appointment for the first treatment session appears to be more strongly related to completing than to starting treatment. (It may be that many personnel required only one session or that those given an initial appointment continued to be given ones.)

As for external facilitation and deterrence, supervisor discouragement of the respondent's keeping the most recent appointment appears to affect starting and completing treatment equally. However, perceived support of dental care by significant others relates more strongly to completing dental care than to starting it.

It would be helpful to carry out a more refined multivariate analysis,

e.g., by discriminant function techniques, to clarify how the different variables, both psychological and systemic, affect utilization when their interrelationships are taken into account and to determine which of these two sets of variables more strongly predicts utilization. However, because of the relatively small size of our study populations as well as the sampling and other problems noted earlier, the results of such an analysis would be highly unreliable.

Other System Variables

System variables which do not appear to have any effect on utilization include:

1) Whether or not personnel have any problems obtaining government transportation.

2) Whether or not respondents report being given a hard time by dental service personnel.

3) Whether or not personnel believed what the dentist told them about the results of the diagnostic examination.

In addition, two variables met our criteria of a possible or tentative association. Respondents who report that it is relatively easy to get time off from their duties for dental work are more likely to complete dental treatment. Conversely, those who report that dental service personnel act unpleasantly are less likely to complete treatment.

Summary

Quality of communication (being told that the purpose of the "birthday" examination was for the respondent's dental health, given an explanation of the nature of the problem, and told it was important to receive treatment) correlate with starting treatment and to a lesser extent completing it.

Ease of access to dental care (being given specific appointments and length of wait) also affects utilization as does peer and supervisor encouragement.

Chapter V

AS ARMY PERSONNEL SEE IT

Introduction

The focus of this study is on the factors associated with starting and completing dental treatment by Army personnel. However, the last item in the questionnaire asked respondents about their explanations of the determinants of utilization: "In your own words, why do you think many people don't go to Army dentists even when they've been told to?" In addition, the respondents were asked at the end of the interview to write down any questions or comments they might have about the study. By and large those with comments interpreted the question as a further probe about personnel utilization of the dental service.

Army Personnel Perspective

General categories of responses were developed on the basis of a review of the raw answers. Then the various responses were coded, that is, placed in one of the general categories. Table 5-1 lists both the categories developed and the percentage of respondents at each fort whose response fell into each category. Since respondents could give more than one reason, the percentages do not add to 100.

The distribution of responses at the two posts is quite similar. There are, however, two major differences, 10 percent or more, between the two. First, possibly because of the larger number of new recruits at Fort Stewart, 25 percent of the respondents there said they did not know why or gave no answer, while only 13 percent of those at Fort Bragg did so. Second,

TABLE 5-1

Respondents' Perceptions of Reasons

Army Dental Service Not Used

	Fort Bragg	Fort Stewart	Total
	% *	%	%
Fear of Dentists, Pain, Needles	30.9	21.7	26.7
Doubts about Competence of Army Dentists	16.0	19.8	17.8
Impersonal Care by Dentists or others at Clinic	7.0	5.3	6.2
Problems of Access; wait for appointments, getting appointments, waiting in clinic	11.9	10.6	11.3
Press of duty / Lack of time	25.1	10.1	18.2
Discouragement by superiors	4.5	7.7	6.0
Low priority re teeth; Lack of knowledge	28.0	23.2	25.8
Other	2.9	3.9	3.3
Don't know, No Answer	13.2	25.1	18.7
N	(243)	(207)	(450)

* Percentages do not add to 100 since more than one response could be given by an individual.

personnel at Fort Bragg were more likely than those at Fort Stewart to give "Press of duty or lack of time" as a reason why people do not go to the dental clinic. This difference may reflect differences in the nature of the two forts or differences in the proportion of officers in our two samples.

When we look at the types of explanations offered, we find that they basically parallel those found in our analysis: fear of pain and dentists, doubts about the competence of Army dentists, impersonal care, and obstacles to access (press of duty, waiting for appointments, getting an appointment, extended waits in the clinic). However, there is also one major difference. The respondents frequently make the point that soldiers are relatively ignorant about dental health or accord it a relatively low priority.

Given the data from this study, we would make an equivocal observation about this issue. On the one hand, we believe that by and large the respondents in this study are both knowledgeable and concerned about dental health. On the other hand, we believe that this concern is not always sufficient to impel personnel to overcome psychological and systemic obstacles to obtaining treatment.

In Their Own Words

While quantifying responses is useful, it can also be useful as well as interesting to get the feel of what personnel believe by looking at the responses as given in their own words (and in their own grammar and orthography). These examples are not randomly chosen: rather they include a number of those we found interesting and which we felt illuminated some of the problems which the respondents see.

As the data in Table 5-1 indicates, fear of pain or dentists was a

frequently suggested explanation of why personnel do not obtain treatment. Many respondents simply gave one or two word answers such as "nervous", "fear of dentists", or "pain." But others were more forthcoming. For example:

> "The majority of service members do not go to dental clinics because most of them fear dentists. I have found that it is very hard to brake that initial fear, but once you go, most of the time they'll go back agin. Also when you have to sit and wait for 1 or 2 hours to recieve pain it is not a pleasant experience." 2nd Lt. Bragg
>
> "They are afraid to go. When you see a friend come back with his whole face swollen and when he went he looked fine. It sort of discourages you."
>
> He also added this comment:
>
> "If our company did not cancel so many appointments, just to take a man to the field to have a certain amount of men there our teeth would be in better shape. Thank you!" E-4 Bragg
>
> "I've had 4 bad teeth pulled. Each time was worse than the time before There for I my self wont go till a tooth hurts so bad I can't stand it " E-4 Stewart
>
> "Most people don't like pain. Dentists are a sign of needle, pockers, and things that hurt. So people don't like to go. Comment: My last visit to a clinic cost me five teeth at one sitting. Do you think I should go back because I have two more teeth that need to be pulled?" SP 4 Bragg
>
> "They probably let their problem go so long they just don't want to face up to it." E-3 Bragg

In addition to a fear of the pain involved in dental work, some people also expressed the feeling that dentists were too critical of personnel's dental hygiene, a stance which discourages some people.

> "Fear of dental work and fear of being told not properly maintaining dental hygiene." 1st Lt. Bragg
>
> "Some people teeth may not be exactly the way the the dentist wants them so they get chewed out. I believe some people can brush their teeth 3 times a day and not be like someone's who did it twice a day." E-4 Bragg
>
> "Because they felt like the dentists will get down on them for not take care of there teeth. Or they felt like the dentist will not do a good job on them because what there friends have said happen to them." E-4 Bragg

Finally, there is the comment by an officer at Fort Stewart who lauds the quality of Army dentistry but offers an explanation of the fear of dentists and raises a point about care for dependents made by a number of respondents.

> "Fear of Pain, I believe many people in the army today were exposed the first time to dentistry when pain was still accepted as unavoidable, and local anesthetics, e.g., novacaine were only used for extractions. Every time I have gone in the army and dental work was necessary (except cleaning) the dentist used novocaine and in some cases a rub on anesthetic before using the needle. It has always been virtually painless."
> Comment: "Army dentists do a fine job with soldiers. Dependent care, at least at Fort Stewart, is a real hassle. Need to come up with a better system for scheduling and caring for dependents It is important to soldier morale." Maj. Stewart

It is not surprising that many people associate dental care with pain and fear dentists. However, the point raised by a number of these comments, that Army dentists express a moralistic attitude toward personnel whose dental hygiene is not what it should be, is surprising. This reaction by people whose careers are devoted to the care of teeth is understandable; unfortunately, it also appears to be counterproductive, turning personnel away from the clinic, a reaction which is also understandable.

> "I hate going in for annual check-up and before they start working on your teeth they tell you that you have to go to a class on how to brush your teeth. I am 25 years old and I think I know how to brush my teeth, so I don't go back for the class or the dental work. I also don't have the time." E-6 Bragg (He didn't return for work according to treatment record)

In addition to a fear of dentists, dental work and the possibility of pain, personnel also seem to harbor a suspicion of Army dentists in particular as the following quotes illustrate:

> "There not good einoff." PFC. Bragg

> "Army dentists are butchers. I think they go through a two week crash course in their field (They hate to repair teeth just pull them)" PFC Bragg

> "Because they don't have faith in them, because myself everytime I knew someone who went to the Army dentists they have at least one tooth pulled. And also feel that army dentists are not as well trained as civilian dentists. Comment: I want to know if they can make you mouth numb other than by using a needle." E-2 Bragg

> "Army dentists are much rougher than civilian dentists. They also have a habit of not listening to you. Comment: Why do army dentists use needles instead of gas?" SP/4 Bragg

> "Because you can't talk to them like a civilian dentist cause your both army and you feel uncase" E-1 Stewart

> "They feel army dentists have little feeling toward their patients and are 'butchers'" [illegible] Bragg

> "Because they're afraid that their teeth is going to get screwed up by the dentist. Comment: I need my teeth straightened badly but the army says that they can't do it. So what do I do about this one, eh!!!!" E-5 Bragg

(This respondent evidently does not share the feeling of distrust even though he could not obtain the treatment he wanted.)

Belief that suspicion of Army dentists is a factor militating against the use of the dental services is also mentioned by personnel who do not necessarily share that suspicion or bear an animus toward Army dentists:

> "People everywhere have some degree of nervousness about dental check-ups. This is compounded in the service by a suspicion that Army dentists don't particularly care about their patients and/or are people of borderline competence who may well inflict needless suffering/trauma/disfigurement, etc. The first is probably true, if only because of the sheer volume of patients they must treat. Apart from any considerations of incompetence, indifference, or outright malevolence, people generally dislike going in (even for a check-up) because of the possibility they will receive bad news. This suspicion is borne out by experience, which nonetheless is no reason to neglect dental check ups." PFC E-3 Bragg

For a number of our respondents, doubts about Army dentists appear to be linked to notions about their training and experience:

> "Most people think Army dentists are under trained and the only reason they are in the Army is because the Army payed there way through school." E-1 Stewart

> "Because they are inexperinced. Comment: Army people need real dentists." E-2 Stewart

> "Because sometimes they don't explain what's the matter with your teeth. Comment: I would like see if you could get some new dental workers in there with expe.reince. And know what they are doing to your so you wouldn't have to worry about it." PLC Stewart

> "Some don't go because the fear of beginers, trainies working in their mouth." E-2 Bragg

One respondent uses his own experience to make the point about training and experience.

> "I believe we are treated like genia pigs to be practiced on. Comment: I was told in April 79 that I had 4 cavities. I have not had one all my life. I asked the Army denest to show me them on the x-rays. He couldn't but he insisted I come back to be drilled on. I haven't been back since." E-4 Bragg (His treatment record showed that he had not returned for treatment.)

Respondents also suggest that the image of the dental service which Army personnel have and share with each other may also be a factor:

> "rumers of army dentists Comment. I tink you should be able to take time of from duties to go to the dintist you perfer like a family dintist ect." E-2 Stewart

> "Most people don't go mainly because there scared of dentists anyway also because of the stories and myths told about Army dentists." MSG Bragg

Not all found that experience bore out the rumors:

> "Bad puplicity Comment I had some dental work done by army dentists which I was very pleased with." E-3 Stewart

Another factor is a feeling that Army dentists are not concerned with patients.

> "Because in my case, one time I told the dentists it hurt and and he simply said "just sit there and shut up" Was very rude and not very professional. Just wanted to flirt with the assistant." Corporal Bragg

> "Because Army dentists don't have enough care about their patients. Comment: If army dentists had more feeling about their patients more soldiers would go." E-3 Stewart

A number of others seem to feel that waiting plus an unfeeling attitude compound the problem.

> "Because sometimes you have to wait so long to get an appoint ment and the dentists are not that nic. Sometimes they just put on an act to make you think they care about their patients, but most of the time they don't care." PFC Stewart

> "Cause all or most dentists they just fix the problem and don't care what will happen later, tomorrow or the next day. They work just to get the money but not to care and solve the problem from from coming, happening again. Comment. When people went to see them, they waited for a long time just for a little problem you can solve in a few seconds but they make you wait for 2 to 3 hours. By them you get tired and dont feel like going back to see them at all. Never." E-6 SSG Bragg

Not only dentists, but those working in the clinic are felt to be uncaring.

> "Too much hassle. It's not the dentists themselves, but the civilians who work in the clinics and schedule appointments, etc. They're usually indifferent to the problems of the soldier, and are more concerned about following their regulations and taking their coffee breaks or time than about helping troopers who need to see the dentist." 1 LT Bragg

> "People who work in the dental clinic or anywhere else on an army base are uncaring and unprofessional. I think should be shot." SGT. Stewart

This solution seems rather drastic, but an officer suggested a less drastic one.

> "They receive unpleasant or neutral treatment by receptionists and support personnel (As an officer, I am sad to say, I have been treated well.) However, I have observed less supportive treatment of lower ranks, and as a commander of troops have been aware of numerous occasions of poor handling of patients - not from a dental standpoint - from a personal standpoint. Increase the "Personal" in Army dentistry and use and support of Army Dental Program will mushroom." LtC Stewart

A surprising number of respondents linked the perception of dentists as uncaring and/or incompetent to "economic" considerations. Specifically, there seem to be a large number of advocates of a "fee-for-service" competitive model.

"Because I don't think they really care about if you're in pain or not they get pay anyway." E-4 Stewart

"First, (some) army dentists don't care and when they mess up they can't get sued for malpractice. Where civilian dentists have to do good because they have to make a living. Army dentists get paid wether they do good or not." E-4 Bragg

"Army dentists are just doing a job. They get paid weather they take care of you or not. That is the attitude they seem to have. When you visit the dental clinic you are bothering them." SSG Bragg

"Civilian dentists will always treat you courteously and do all they can to help. They know you can choose another dentist. Army dentists do not have to worry about attracting and keeping patients. Army dentists tend to be somewhat abusive of their patients spending more time telling them how bad they're doing maintaining their dental health rather than fixing their problems. Comment: Army dentists should have operations on post similar to civilian dentists. The normal routine check-ups can be spread out. For dental care, Army dentists should be paid according to the number of patients they attract and keep." 1 Lt. Bragg

"First of all, I don't think people trust an Army dentist as much as civilian dentists because they feel he is working for the government and not for the troop, which incidentally is true. Second, some people have jobs that demand a lot of their time and they will not take time off to go." Comment: "It seems the questions were a bit tailored for a certain type of response, but I feel it is a useful study that is being done. Thank you." SGT E-5 Bragg

"Probably because they trust civilian dentists more to do better work. Because they get paid by the individual and have a reputation to maintain." Comment: "I feel getting an appointment for dental work is much too difficult. If you go to the clinic they give you numbers to call, then only on Fridays they schedule appointments. I'be called and their either busy or once I never got an answer." E-5 Stewart

One respondent links this point of view to his own experience:

"Excluding the people that are simply afraid of dentists (or dental work) it is probably because they feel that an Army dentist has no vested interest in their welfare. He gets paid regardless of how many people (or how little) he works on and regardless of the quality of his work (unless he's totally incompetent.) In my own case, I've only been to the dental clinic once since being at Fort Bragg and the dentist said my teeth and gums were in good order. That's true about my teeth, but not my gums. They bleed more or less regularly (with each brushing) which my civilian dentists was treating when I enlisted in the Army. The Army dentist somehow overlooked it or decided, I guess, that bleeding gums is normal. I was last checked in Oct. 80 and it's now Aug. 81 and they're still bleeding. So much

for Army dentists." SP 4 Bragg

Among personnel suggesting that distrust of Army dentists is a deterrent to utilization are ones who do not share that perception and believe there may be reality constraints upon Army dentists.

> "Because they really don't care about their dental health and because they think any army doctor (dentist or otherwise) is not so qualified as a civilian. Personally I go to both a Army and civilian, but feel the Army has more qualified dentists. Comment: I feel you should emphasize check-ups and have these studies more often." E-2 Stewart

> "For the most part Army doctors and dentists have a bad reputation among enlisted men. I think some people are either embarressed about their teeth or just don't care. Comment: Given the resources and the amount of personnel they have to work on, I think the army does a good job caring for the teeth of the individual." SP 4 Bragg

> "Because they thought that it would hurt them very bad. Comment: I think that dentists would be a lot better if they had more help. Because it take time to fix teeth." E-3 Bragg

> "They simply don't know that the dentists are good. Comment: The people at our dental clinic are very good. I've never felt any pain when having any work, do include the pulling of wisdom teeth, done by the clinic. I'm well pleased." SP-4 Bragg

A number of respondents emphasize what might be called structural or systemic problems, duties and other responsibilities which must be dealt with: the amount of time involved in obtaining an appointment or waiting at the clinic; lack of supervisor encouragement; and the interaction of these factors both with each other and with others such as fear of dentistry and distrust of army dentists.

> "Whenever I get an appointment they always have me doing something else." E-2 Bragg

> "Because they always are bad about giving appointments when you have time." E-2 Stewart

> "Because we don't have time to go and is difficult to get the time from NCO to go." E-1 Stewart

> "Because when you ask your Sergeant he tell you something about your are going to field so you stop your appointment and make it some other time. Comment: "Well I know I never some dental work

but every time go to the dentist for appointment same like I never can get one." E-3 Stewart

"They don't want to have to wait for a long time and when their thru waiting and get their problem taken care of, they get back to your unit and get hassled because you were gone all morning." E-4 Bragg

"Well can only relate to my own experience, had a dental appt. and had to cancel because I had 24 hour duty the day before. So I cancelled and couldn't find time to reschedule. Just can't find time." SP/4 Bragg

"Mainly they have to do something else at the company like going to the woods or guard duty inspection anyway its mainly up to your chain of command at company level to go or, they decide just about every time you want to go (What I'm really trying to say is, if the company isn't doing anything you can go.) Comment: You, if you can try to help us get care we need and I'm not the only one." E-5 Bragg

"Most people that I know of go. A few people don't go just for some personal reason; but I've seen some people that don't go mainly because their highers feel that some certain training is more important at the time. This happens to a troop a couple of times, so he simply quits going. This happened to me also, until my yearly check up came along." Comment: "I think that the dentists are really good at their jobs, sometimes a little rushed, but very good." SP/4 Iraq

The above comments were made by those of "lower" ranks; if anything, however, higher ranking respondents were even more likely to cite structural problems. The most lengthy reply we received was from a Captain at Fort Stewart who began by saying:

> "I really don't think the problem is because of the quality of the Army dentist. And in my entire career in the army I have never seen a person taken out of a field problem because of a dental problem. Basically, the problem is the difficulty in getting an appointment in the military."

He then details (for a page and a half) his own problems in obtaining help for a dental problem, including lack of notification for three years (in Germany) loss of records, long waits and then being told to return another time and the fact that documentation of a check-up from one post was not accepted at another. Further, he found it impossible to schedule another appointment since there were never any available. He ends by saying:

> "As the Battalion Adjutant I was able to schedule a Dental POR check

> for the entire battalion - at least now most of my people and myself have had an "official" dental check. Seven months later I still have poor teeth and a broken front tooth with no cap (I've never had this problem with a civilian dentist.) If as an officer I've had these problems, I can just imagine the problems, and run-a-round of enlisted soldiers." Captain - Stewart

Lest Fort Stewart feel singled out, a Captain at Fort Bragg expresses similar sentiments.

> "Long wait, inflexibility of appointments. Holier than thou attitudes of some reception personnel, sometimes there seems to be animosity toward military personnel by civilians in the clinic. Also a basic fear of dentists." Comment: "I am a company commander. I frequently cannot wait two hours for a regular check-up. I have been told by my clinic that I cannot make appointments for regular check-ups. This is what I mean by inflexible in q.103. The dental clinics exist to support the soldier, not the converse." CPT. Bragg

Other examples:

> "People at the dental clinic make excuses when you want an appointment and as an officer you can only (usually) get certain days from your schedule to go." 2nd Lt. Bragg

> "On this post, it's due to the asinine policy in effect for getting work started." SSG Stewart

> "First, when making appointments it is normally at least a month before they can see you for dental care. The fast pace and changing schedule of the soldier makes it very hard to predict his ability to see a dentist at a given hour one month in advance. Second, it is normally 3 hours out of your work day to go to the dentist. A soldier who is at any level in the Chain of Command will find it difficult to be absent for that period of time. Personally, my responsibility to do my job well is greater than good dental care." Comment: "The basic problem is that the dentists hours and the great number of personnel they have to care for makes going to the dentist very inconvenient for any soldier E-5 or above. A partial solution would be to provide some dental care during evenning hours." 1 Lt. Bragg

> "Time involved in waiting around in the clinic after arrival. You cannot get "one stop" service. If you have a dental exam, you are checked - make an appointment for cleaning - cleaned - make an appointment for filling - filled. Stretches over months. In my case, the last time it stretched over 2 months. The last civilian dentist I went to took care of it all at one time." CPT Bragg

> "It is extremely difficult to schedule appointments that do not conflict with duty. Appointments need to be in person making it necessary to make two trips to the dental clinic for each appointment.

> Waiting time for appointments is so long that many times an appointment is a best guess so a large amount of time must be blocked out of a day to avoid conflict." 1 Lt. Bragg

In spite of the fact that NCO's and officers seem to have their own problems getting dental care, problems within the chain of command are frequently cited.

> "I feel that the supervisor have a very narrow mind about these things. The army gives benefits to its personnel and when someone uses their benefits they refuse to let them go. So I feel this is Bad, and thats why many people dont go to Dental Clinics, they get tired of being told mission first." E-5 Stewart

> "They think that army dentists are not good and they don't care about their patients. Comment: "I would like to know what could be done when a soldier have a dental appointment and a NCO or officer makes it hard for him to go." SP/4 Bragg

> "Possibly fear of pain, fear of admonishment from dental personnel, I really don't know I always go. The next comment may have something to do with it." Comment: "We are allowed to go for appointments. However, we are discouraged from setting up appointments on our own. (By our supervisors) And if we persist and there is no major dental problem (i.e. excrutiating pain) there is a tendency for our chain of command to try to get even with us." SP/4 Bragg

One respondent suggests that another branch of the service handles things better.

> "The company I'm in is mission oriented and thinks that an individual is trying to get out of work." Comment: "During my stay in the Air Force every soldier was placed in the computer files and was notified of yearly examination appointments. How come the Army doesn't do the same. They can schedule vehicle maintenance but forget about personnel."PFC Stewart

This respondent mentions pain first, then:

> "Another reason is there is not too much cooperation especially when you have to cancel it because of some miner things like inspections or other wise. I myself have an appointment with the Dentist tomorrow but I also have a dress green inspection, which will it be? I don't know, I just obey orders." E-4 Stewart

> "Because they can't, field takes priority. Too many important committments especially for NCO supervisor." Comment: "Do not cancel appointments at any level. I have tried for almost 2 years to get one chipped tooth fixed. The same one." E-5 Bragg

> "I think one of the biggest problems are, that NCO and officer and

other chain of command make it hard on the troops to go." SP/4 Bragg

Finally, one respondent picks up on the lack of any penalty if you don't go, that is, the lack of institutional priority for dental care.

> "Too lazy and don't think that they have too. They ususally don't get into trouble if they don't. Supervisors usually don't care if subordinate go or not." MSG Bragg

Although many respondents indicated that ignorance about dental hygiene and the low priority attached to it by personnel are factors, these observations tend to brief or, as in the example above, part of more extended comments.

> "Apathy." 1 Lt. Bragg

> "They must be fools or something." Comment: "I think Army dentists are all right no complaints so far." E-4 Bragg

> "Because of lack of interest in their teeth, laziness or training. Also the possible risk of tooth extraction." Comment: "Officers and NCO's should emphasize more of the importance of dental upkeep and general hygene, especially dental. I feel any problems concerning NCOs and officers neglecting this benefit for themselves and their troops is highly unprofessional." E-4 Bragg

> "Either they're afraid or they just don't care about their mouth. But in our unit, we rarely or never get notification that its time for a check-up." Comment: "I think more complete dental care for dependents is very badly needed in military dental clinics." E-4 Bragg

> "They're lazy and not responsible." E-4 Bragg

> "They don't care about their mouth." E-3 Stewart

> "For fear of being hurt, laziness, or just don't give a damn." E-5 Bragg

Finally, as we have noted and as many of the examples we have given illustrate, individual respondents often gave complex responses touching upon a number of issues.

> "Afraid of pain involved, possibility of having teeth pulled instead of filled. Also they sometimes are given a hard time for going too often." E-5 Stewart

> "Because of the indifferent attitudes of the personal running and working the clinics. Because some people have a phobea about dentists much like being afraid of heights." E-2 Bragg

"Supervisors don't feel dental appointments have any priority and won't give time off if anything else is on the training schedule. Most people are naturally afraid of dentists and feel why mess with it if it doesn't hurt. After all you don't go to a doctor if your not sick and dentists are doctors, Right? It only natural to associate dentists with pain and who likes pain and why go to someone who is only going to give you a pain!" Comment: "I had quite a lot of work done on my teeth and the doctors and assistants were very nice and helpful. Thanks." SGT Bragg

"In my opinion the individual just doesn't care about going or is afraid to go. There have also been frequent occasions when its absolutely impossible to get away from the training. Most people will not go on their free time. If they don't go on army time more than likely they won't go at all, unless the individual has serious problems. I myself have never been told to go for my check-up. Therefore, I have had no work done on my teeth." SGT Bragg

"They are frightened of dentists in general plus the long waits and relatively speaking the attitude of being treated like a heard of cattle i.e. sick calls where you wait for untold hours, etc. Shere red tape and B.S. that goes on. In the civilian sector you make an appointment and get cared for on time. If you can't make appointment on time you notify and reschedule. In the army you need to appear in person, etc." Comment: "The questionnaire has not hit many main and critical points of why people do not trust or go to military dental facilities." Maj. Bragg

Summary

When asked their opinions about the failure of Army personnel to obtain needed dental treatment, the respondents in our sample suggested factors which by and large parallel those which emerged from the statistical analysis: fear of pain and dentists, distrust of the competence and concern of Army dentists, and problems with access (discouragement by superiors, the press of duties, trouble obtaining appointments and the time required). However, respondents also suggested that a lack of knowledge about and concern with dental health among Army personnel is a factor.

Chapter VI

CONCLUSIONS AND SUGGESTIONS

Introduction

What conclusions can we draw from our three sets of data, psychological correlates of utilization, system correlates, and respondents' beliefs about the determinants of utilization, and what do these conclusions suggest about possible approaches to enhancing Army personnel use of dental care services?

Two points should be noted. First, any conclusion is based on a series of judgements about the importance of specific findings, and how these findings can be conceptually integrated. Second, suggestions on how to implement our conclusions should be considered tentative. Any proposal often requires either new resources or new patterns of resource allocation; thus, what is possible is limited by constraints about which we lack the relevant information. In addition, any proposal for change in one element of a larger system may impose possibly unacceptable strains on other components of the system, but we are basically strangers to that system. In other words, our suggestions may be reasonable given our data and conclusions, but not so in terms of the structure and function of the Army Dental Service. Ultimately, any decision as to what is possible as well as desirable is something only the service can make.

Conclusions

In light of our specific findings, what conclusions can be drawn about factors deterring utilization of the Army Dental Services particularly in the lower ranks and among younger personnel, those least likely to obtain care?

The major reasons for this failure appear to include:

1) Fear of dentists and of the pain seen as associated with dental care.

2) Doubts about the technical competence of Army dentists (who are viewed as less competent than civilian dentists).

3) Perception of dental care and particularly of Army dental care as impersonal (poor communication, lack of concern, disrespect).

4) Doubts that dental care is important in the Army.

5) Failure to involve personnel in the treatment process, that is, to explain and to provide feedback about what is going on.

6) Obstacles to access, whether deriving from the demands upon soldiers or the procedures of the dental service.

7) Discouragement by other Army personnel, particularly supervisors.

8) Ignorance about dental health or the low priority attached to it by soldiers (in the view of personnel themselves).

These conclusions are based on what might be called our clearcut findings. But most of the "borderline" findings which we noted also support these conclusions. For example, the fact that personnel who find it relatively easy to get time off are more likely to obtain care is but another aspect of the relation between access and utilization. The greater likelihood that personnel with either a history of dental problems or of early (pre-Army) utilization will obtain dental care comes down to a question of priorities. Similarly, other borderline findings, that a preference for civilian dentists, a belief that Army dentists are more likely to pull teeth, and that clinic personnel act unpleasantly, all discourage utilization can also be subsumed under the more general conclusions we have noted. (The one finding that does not appear to fall into place is the perfectly reasonable association between belief that ones own behavior can influence dental health and utilization.)

In at least one way our conclusions are surprising. Despite the fact that the focus of the study was on psychological correlates, characteristics of the individual per se which affect utilization, most of the observed relationships involve structural characteristics, factors specific to the Army situation. Aside from the fear of dentists and pain, and the suggestion by respondents that Army personnel accord dental health a low priority, all of the other correlates of utilization revolve around Army and the dental service or the perceptions which personnel have of them.

Given the initial focus of the study, this may be surprising but it should not be considered disappointing. Institutional policies and procedures are usually easier to change than individual beliefs which, in turn, are usually easier to change than either habits or attitudes, both of which tend to be ingrained. Further, as mentioned earlier, it should also be kept in mind that both theoretically and practically, the distinction between psychological and system factors is ultimately an arbitrary one, being primarily a convenience for categorizing and organizing the data.

From a theoretical perspective there are undoubtedly individuals who will either refuse to go for dental care no matter what or who will do so whatever the obstacles. However, most people probably fall in the middle, their behavior reflecting the interplay of personal and system factors; and the behavior of these individuals can be influenced by changes in any of the relevant factors. From a practical perspective any attempt to affect behavior by changing either individual or system characteristics ultimately involves programmatic modifications of the system. Consequently, the distinction between psychological and system variables is rarely important, either for

explaining or influencing behavior.

Finally, some consequences of our design should be noted. First, this study focussed on three groups: those who never started dental treatment; those who started but failed to complete it; and those who completed treatment. One potentially important group is not included, viz., those who never reported for the birthday examination. Certainly the data we have obtained suggests that the system for notifying personnel may not always succeed in doing so. Thus, it is quite possible that a significant number of individuals never report for routine diagnostic examination. In light of this possiblity, some attempts should be made to determine how widespread a phenomenon this may be, and if it is found to be significant, an attempt should be made to determine what factors are involved.

Also as a consequence of our design is the fact that the three treatment groups are equal in size. We have no idea what the actual distribution of Army personnel with respect to treatment status is. However, the A.I.D.R. reported that those in the "interrupted treatment" group were far fewer in number than those in the other two groups. Hence, it may be that most personnel fall into one of two classes, those who complete treatment or those who do not start it at all. If this is indeed the case, the major investment should be in methods for initially involving personnel in treatment.

Suggestions

Plans to enhance utilization of dental care by Army personnel need to keep in mind that dental care behavior has multiple determinants. Consequently, optimal enhancement of utilization will require a multi-pronged approach, one which deals with personnel, supervisors and the dental service itself, and

combines educational (public relation) efforts with objective changes.

Reasons for a multi-pronged approach are easy to adduce. Efforts to persuade personnel that dental care is nowhere as painful as they believe it to be will have a limited utility unless the dental service gives priority to the control of pain and discomfort in treatment; a product must deliver what is promised if advertising is to be effective. Similarly, persuading personnel that dental care is important to the Army will have a limited payoff if supervisors indicate that it has a low priority compared to other obligations and tasks.

Any attempt to enhance utilization must begin with the image which personnel have of dental care (painful) and of the Army dental service (significantly negative). This negative image surfaced in comments made by personnel, and is also implicit in responses to the question asking how the Army recruits dentists. Further, responses to most of the questions about Army dental care reveal a negative image; for example, in the battery of items comparing Army dentists with dentists in general, Army dentists were consistently ranked as less competent and concerned.

What should be included in an educational program designed to change perceptions of the dental service? Obviously, they should emphasize those components of the image which affect utilization. Thus, the following should be stressed:

1) Good dental care is necessary to optimize individual health and Army functioning and that good dental care is the right of each soldier, one which should be exerted.

2) Army dentists are as competent as civilian dentists, are in fact, recruited from civilian dentists, and that seeing an Army dentist is like seeing a civilian dentist.

3) Army dentists are above all concerned with ensuring optimal dental health of patients, using individualized treatment plans to ensure that each patient receives the best care possible.

4) The Army dental service uses the latest technology, particularly

to eliminate pain.

This "selling" campaign is but the first step since, as we noted earlier, beliefs must be reinforced by the system and validated by personal experience if they are to lead to appropriate behavior. In light of the role which our data show that supervisors play, it would appear that a two-fold campaign is required. In addition to the general one noted above, a program targeted toward supervisors is required. Such an effort should not only reiterate the importance of dental care for Army personnel, but also stress the responsibility of supervisors for the health (including dental health) of their personnel, and the importance of supervisor encouragement and discouragement in determining whether or not personnel obtain care.

Finally, since aspects of dental service operations significantly correlate with utilization, the dental service needs to consider identifying and modifying those elements of its structure and functioning which tend to decrease utilization. Aside from the need to match clinic procedures with the image the dental service seeks to project, this study has pinpointed two general areas where change might facilitate utilization: clinic procedures governing access, and Army dentists' level of concern for and communication with patients. Specific changes that might be introduced:

1) An emphasis on the benefit to the individual, viz. improved dental health, as the explanation for the birthday examination.

2) Use of scheduled appointments for dental care, including the possibility of telephone scheduling for the initial appointment.

3) A greater emphasis on dentist-patient communication, i.e., explanations of both the results of the examination and of the nature and purpose of the treatment regimen planned, attempts to elicit the patient's concerns, fears and doubts, and possibly explication of each dental procedure immediately before it is undertaken.

4) A greater expression of concern for the patient, that is, the patient's dental health and fears.

5) Continuity of care, that is, care from the same dentist for the entire episode of diagnosis and treatment (to further personalize care and facilitate communication).

While suggestions are easy to make, change does not take place in a vacuum. For example, even the seemingly innocuous proposal that the Army dental service both project the message that its primary goal is the dental health of personnel and act to reinforce that message has its pitfalls. Dental care is an ancillary service in the Army; its goal is not the enhancement of personnel dental health per se, but to minimize personnel attrition which impedes the Army's basic mission. Hence, it is possible that attempts to emphasize dental health of personnel as the primary concern of Army dentistry may generate problems within the wider system.

Our proposals to facilitate access counter the institutional goal of optimally efficient use of resources in the dental service. The prevailing "clinic" walk-in model which it has adopted requires a lower level of personnel and paper work than would an appointment-based model. Further, it minimizes gaps in the use of available resources occasioned by cancelled appointments, late arrivals, or discrepancies in the time scheduled vs. that actually needed to care for a patient. The widespread use of the "clinic" for institutional-based delivery of ambulatory medical care reflects in large part economic considerations -- how to deliver care with the least expenditure of personnel. However, it should be kept in mind that efficiency is not always the same as effectiveness. They are identical for hospital clinics which are uneconomic because of the vagaries of third party payment; and indeed, the implicit goal is to discourage utilization. However, the goal of the Army dental service is to encourage utilization. It is easy for institutional planners to forget that people have their own definitions of how they should be dealt with, and will, if not under the gun, often disengage from systems which fail to meet their expectations. Thus, mathematical models on patient flow which usually define the individual as a unitary variable, that is, as object, tend to reduce as well as rationalize

patient flow. In short, the goal of efficiency in the use of available resources may often conflict with the goal of effectiveness, in this case, fostering optimal utilization.

This "irrational need" of individuals for recognition by the system is undoubtedly an element in the observed correlation between communication and concern on the part of the dentist and utilization. Indeed, as other studies have shown, these factors are key to all professional-client relationships. However, it is easier to encourage concern and communication than to achieve them. First, as a number of our respondents pointed out, Army dentists do not have the economic incentive that civilian dentists have to personalize their relationships with patients. Second, dentists are officers, the majority of their patients, enlisted men and NCO's, and this discrepancy militates against personalization of the relationship. Third, the differences in level of education between dentists and patients also represents a barrier to communication. Finally, the ultimate test of a soldier is combat and naturally enough the goal of the Army is to have personnel who can pass that test, who are "tough" soldiers; however this image of what personnel should be does not easily jibe with a need by them for communication, support, and reassurance by a dentist. It is very probable, therefore, that modification of the existing pattern of the dentist-patient relationship will require more than just a new policy; it will also require intensive training of dental personnel as well as follow-up and reinforcement.

In short, attempts to increase personnel utilization of the Army dental service will involve a set of discrete efforts, some of which will be difficult to implement. Thus, this goal is one that will have to be realized over a period of time, by a series of incremental steps rather than by one definitive change.

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Category _____

APPENDIX A

PROJECT SCREENING FORM

1. Purpose of Examination

Induction_____ OHMP_____ Emerg._____ Other_____

2. Date of Examination: _____ _____
Month Year

3. Sex: M_____ F_____

4. Race: _____

5. Grade, Rating or Position: _____

6. Organization Unit: _____

7. Component or Branch: _____

8. Service, Dept. or Agency: _____

9. Patient's Last Name First Name Middle Initial

_____, _____ _____

10. Date of Birth: _____/_____/_____
Day Month Year

11. Identification Number: _____

APPENDIX B

QUESTIONNAIRE

STUDY ON THE USE OF THE U.S. ARMY DENTAL SERVICE

Centers for Community Health
Faculty of Medicine
Columbia University

1981

ATZI-NCR-MA-81

PRIVACY ACT STATEMENT

Your participation in this research is strictly voluntary. Individuals are encouraged to provide complete and accurate information in the interests of the research, but there will be no effect on individuals for not providing all or any part of the information. This notice may be detached from the rest of the form and retained by the individual if so desired.

The proposal for this research study has been evaluated and approved by the Institutional Review Board, Health Sciences, Columbia University.

APPENDIX II

QUESTIONNAIRE

STUDY ON THE USE OF THE U.S. ARMY DENTAL SERVICE

Centers for Community Health
Faculty of Medicine
Columbia University

1981

ATZI-NCR-MA-81

PRIVACY ACT STATEMENT

Your participation in this research is strictly voluntary. Individuals are encouraged to provide complete and accurate information in the interests of the research, but there will be no effect on individuals for not providing all or any part of the information. This notice may be detached from the rest of the form and retained by the individual if so desired.

The proposal for this research study has been evaluated and approved by the Institutional Review Board, Health Sciences, Columbia University.

Columbia University is doing a study for the Army on Army dental care. We want to know about your experiences with Army dental care, and how you feel about Army dental care and looking after your teeth.

Taking part in this study is completely voluntary. Only people from Columbia University will see the questionnaire and your answers. Our report to the Army will be in the form of group statistics.

Read each question, decide on the best answer, circle the number you've chosen and then move on to the next question. In questions where it seems that more than one answer can describe your situation, or that no answer does, please circle only the <u>one</u> choice which comes closest to your feeling or experience.

Keep in mind that this is not a test, but a survey of your opinions. Where there are questions about things you have no experience with, just tell us what you think or believe, even if you don't know for sure.

Please answer every question. If you come across a problem with the questionnaire, raise your hand; one of us will try to help you.

NAME: _____

RANK: _____

SOCIAL SECURITY NO: _____

BEGIN DECK 01

Case Number [ ][ ][ ][ ] 1-4/

PART ONE

The following questions are about Army Dentists. Listed below are some of the things dentists can do for patients. For each item, if you think Army Dentists are "very good", circle the number "1". Where you think dentists are "somewhat good", circle the number "2". Circle the number "3" where you think they are "not good at all". These are matters of opinion, and we want to know what you believe.

In your opinion, how good are Army Dentists at each of the following:

		Very Good	Fairly Good	Not Good At All	
1.	Saving patients' teeth	1	2	3	5/
2.	Helping to prevent toothaches	1	2	3	6/
3.	Making teeth look better	1	2	3	7/
4.	Keeping down the pain of treatment	1	2	3	8/
5.	Showing that they care about their patients	1	2	3	9/
6.	Explaining the problems to their patients	1	2	3	10/
7.	Explaining what they are going to do to your mouth	1	2	3	11/

The next few questions are about dentists in general, both military and civilian. Again, circle the number that matches how good you think dentists are at each job listed.

In your opinion, how good are dentists in general (both military and civilian) at each of the following:

		Very Good	Fairly Good	Not Good At All	
8.	Saving patients' teeth	1	2	3	12/
9.	Helping to prevent toothaches	1	2	3	13/
10.	Making teeth look better	1	2	3	14/
11.	Keeping down the pain of treatment	1	2	3	15/
12.	Showing that they care about their patients	1	2	3	16/
13.	Explaining the problems to their patients	1	2	3	17/
14.	Explaining what they are going to do to your mouth	1	2	3	18/

15. If you had to see a dentist, and if there was no cost or if the costs were the same, to whom would you rather go? 19/

A civilian dentist 1

An Army dentist 2

Either dentist would be just as good . .3

16. How do you think the Army gets its dentists? 20/

The Army trains soldiers to be dentists .1

The Army recruits civilian dentists . .2

Don't Know 3

17. How often do you think a dentist who examines you can catch a problem before it begins to bother you? 21/

Most of the time 1

Sometimes. 2

Hardly ever, or never. 3

18. Do you think that you need a dental exam every year? 22/

Yes 1

No 2

19. When you go to the Army dental clinic for some dental work (to have teeth cleaned, filled, or pulled) is it usually easy or hard to get time off from your duties? 23/

Usually easy to get time off 1

Usually hard to get time off 2

Never went for dental work 3

20. Have you ever been given a hard time by any of the personnel in the dental clinic? 24/

Yes, often 1

Sometimes. 2

No, hardly ever or never 3

21. Have you ever had any problems getting government transportation to go to the dental clinic? 25/

Yes 1

No 2

Did not need government transportation .3

22. In your opinion, how healthy are your teeth and gums? 26/

Healthier than most people's 1

About the same as most people's . . .2

Not as healthy as most people's . . .3

The following questions are about dental problems. If you never had the problem the question asks about, you should circle the number "1". For those problems which you have had once or twice, circle the number "2". For those problems which you have had more than twice, circle "3". Please be sure that you have answered each question.

Have you had any of the following:

		Never	Once or Twice	More Than Twice	
23.	A toothache	1	2	3	27/
24.	A hole or cavity in any of your teeth	1	2	3	28/
25.	A broken tooth	1	2	3	29/
26.	Sore or bleeding gums	1	2	3	30/
27.	A tooth becoming loose	1	2	3	31/
28.	A tooth that changed color	1	2	3	32/
29.	Bad breath that you could not get rid of	1	2	3	33/
30.	A lost tooth	1	2	3	34/
31.	Problems with false teeth	1	2	3	35/

Now, for each of the same dental problems, we'd like to know how soon you would probably go to the dentist if you had it these days:

		Immediately	Sooner Or Later	Probably not At All	
32.	A toothache	1	2	3	36/
33.	A hole or cavity in any of your teeth	1	2	3	37/
34.	A broken tooth	1	2	3	38/
35.	Sore or bleeding gums	1	2	3	39/
36.	A tooth becoming loose	1	2	3	40/
37.	A tooth that changed color	1	2	3	41/
38.	Bad breath that you could not get rid of	1	2	3	42/
39.	A lost tooth	1	2	3	43/
40.	Problems with false teeth	1	2	3	44/
					45=Blank

41. How often do you brush your teeth? 46/

- More than once a day 1
- Once a day 2
- Less than once a day 3
- Hardly ever or never 4

42. How often do you use dental floss or a toothpick to clean your teeth? 47/

- More than once a day 1
- Once a day 2
- Less than once a day 3
- Hardly ever or never 4

43. While you were growing up, did your parents have you go to a dentist? 48/

I went regularly 1

Only when I had a problem 2

I never went 3

Not sure 9

44. While you were growing up, did your family go to a dentist? 49/

They went regularly 1

Only when they had a problem 2

They never went 3

Not sure 9

45. Before you joined the Army, how often did you go to a dentist just for a check-up, even though nothing was bothering you? 50/

At least once a year 1

Every couple of years. 2

Hardly ever 3

Never went just for a check-up . . .4

46. How does going to the dentist make you feel? 51/

Very nervous 1

Somewhat nervous 2

Not nervous at all 3

47. Have you ever been so nervous before going to the dentist, that you did not go? 52/

Never. 1

Only once or twice 2

Three or more times 3

48. How nervous are you about getting dental x-rays? 53/

Very nervous 1

Somewhat nervous 2

Not nervous at all 3

49. Is it painful to have a check-up done by the dentist? 54/

Yes 1

No 2

Do not know 3

50. Is it painful to have the dentist clean your teeth? 55/

Yes 1

No 2

Do not know 3

51. Is it painful to have fillings done by the dentist? 56/

Yes 1

No 2

Do not know 9

52. Is it painful to have a tooth pulled by the dentist? 57/

Yes 1

No 2

Do not know 9

53. How do you feel about the dentist giving you a needle? 58/

I do not want dental work unless the dentist gives me a needle 1

I don't have strong feelings about it . . .2

I can't stand having a needle 3

DECK 01

Next, we would like your opinions about Army dental care. For each statement, circle the number that shows how true you think it is, definitely, somewhat, or not at all.

In your opinion, how true are the following:

		Definitely True	Somewhat True	Not True At All	
54.	Army dentists have exactly the same training as civilian dentists.	1	2	3	59/
55.	Army dentists seem to have the same kind of equipment as civilian dentists.	1	2	3	60/
56.	Army dentists are more likely to pull teeth than civilian dentists.	1	2	3	61/
57.	Army dentists are more likely to cause pain than civilian dentists.	1	2	3	62/
58.	Personnel in the Army dental clinic act unpleasant.	1	2	3	63/
59.	The Army dental clinic gives a lot better care to officers than to enlisted men.	1	2	3	64/
60.	Friends of mine in the Army have had bad experiences with Army dental clinics.	1	2	3	65/
61.	My supervisor (NCO or Officer) discourages people from going to the dentist.	1	2	3	66/
62.	My buddies in the Army give me a hard time about going to a dentist.	1	2	3	67/

DECK 01

Listed below are different statements. Read each one carefully, and for each one, indicate the extent to which you agree with it, strongly, somewhat, or not at all.

To what extent do you agree with the following:

		Strongly Agree	Somewhat Agree	Not Agree At All	
63.	If I am going to have problems with my teeth or gums, I will have them no matter what I do.	1	2	3	68/
64.	It is important to me that people think I look attractive.	1	2	3	69/
65.	False teeth are as good as real teeth.	1	2	3	70/
66.	I never worry about how my teeth look.	1	2	3	71/
67.	In the long run, I will be better off if the dentist fixes my teeth rather than pulls them.	1	2	3	72/
68.	I care a lot about the way I look.	1	2	3	73/
69.	If I take care of my mouth and teeth, I will have less dental problems.	1	2	3	74/
70.	Losing all my real teeth would not bother me.	1	2	3	75/
71.	Having teeth that look good is important to me.	1	2	3	76/

77-78=Blank
79-80/01

BEGIN DECK 02
1-4=Case #

To what extent do you agree with the following:

		Strongly Agree	Somewhat Agree	Not Agree At All	
72.	It is important that personnel get regular dental checkups.	1	2	3	5/
73.	There is no way to prevent dental emergencies among soldiers in the field.	1	2	3	6/
74.	Dental problems interfere with the capacity of soldiers in the field to carry out their duties.	1	2	3	7/
75.	A supervisor's responsibilities include encouraging personnel to maintain their dental health.	1	2	3	8/
76.	Dental emergencies make problems in the field.	1	2	3	9/
77.	Soldiers go to the Army dental service as an excuse to get off duty.	1	2	3	10/
78.	A dental emergency can affect a soldier's ability to carry out his duties as much as a medical emergency.	1	2	3	11/
79.	Regular dental care helps prevent dental emergencies among soldiers in the field.	1	2	3	12/

PART TWO

DECK 02

ARMY DENTISTRY PROCEDURES

The following series of questions are about your last Army dental check-up.

80. The last time you were notified to go for a dental check-up, what was the reason given for the check-up? 13/

- For my dental health 1
- Army policy 2
- No explanation or reason was given . .3
- I do not remember. 9

81. When you were last notified to go to the Post dental clinic for a dental check-up, was an appointment given to you? 14/

- Yes, I was given an appointment 1
- No, I was told to make an appointment . . .2
- I was just told to go to the Army dental clinic. 3
- I was told to go on sick call for a dental check-up 4
- I do not remember 9

82. When you last went to the dentist for a check-up, did your supervisor (NCO or officer) encourage you or make it difficult for you to go? 15/

- Encouraged me to go 1
- Made it difficult for me 2
- Did not care either way 3
- A supervisor was not involved in my going . .4
- I do not remember 9

83. When you got to the dental clinic, how long did you have to wait for your check-up by the dentist? 16/

Less than a half-hour 1

A half-hour to two hours 2

More than 2 hours 3

Had to come back another day for the check-up 4

84. After your last check-up, were you told you should come back for some dental work (to have your teeth cleaned, to have a filling, or any other dental work)? 17/

I was told to come back 1

I was told that my teeth were in good shape 2

I was not told anything either way. . . .3

I do not remember 9

85. If you were told to come back for dental work, were you told what the problem was? 18/

Yes 1

No 2

Had no problems 3

I was not told anything 4

I do not remember. 9

86. If you were told to come back for some dental work, were you worried or nervous about having to come back to the dentist? 19/

Yes 1

No 2

Had no problems 3

I do not remember. 9

87. After your last exam, did you believe what the dentist told you about your teeth? 20/

Yes 1

No 2

I was not told anything 3

I do not remember. 9

88. If you were told to come back for some dental work, did the dentist tell you it was important for you to get this dental work? 21/

Yes, he made it sound very important . . .1

No, he made it sound like it was not that important 2

Didn't need any dental work 3

I was not told anything 4

I do not remember 9

89. If you were told at your last check-up that you needed some dental work, were you given an appointment? 22/

Yes, I was given an appointment to see the dentist 1

No, I was told to set up an appointment for myself 2

I did not need any dental work 3

I was not told anything 4

I do not remember 9

90. If at your last check-up, you were told that you should get some dental work, did you have all this dental work done? 23/

Yes, I finished all the dental work 1

No, but I am still getting dental work. . . .2

No, I could not get off duty/training 3

No, I transferred to another post 4

No, I could not stand the dental work 5

I did not need dental work. 6

I was not told anything 7

I do not remember 9

91. The last time you had an appointment for some dental work, did your supervisor (NCO or Officer) encourage you to go? 24/

Yes, encouraged me to go 1

No, made it difficult for me 2

No, did not care either way 3

A superior was not involved 4

Did not need dental work 5

I never had an appointment for dental work .6

I do not remember 9

The next set of questions are about visits to a dentist aside from those required by the Army.

92. While in the Army, and without being told by anyone, have you ever gone to a dentist simply because you felt you needed to go? 25/

Yes, I went 1

No, I never did 2

93. When you last went to a dentist on your own, what was the main reason for your going? 26/

I had a toothache or some other problem . .1

I felt it was time for a check-up 2

I had some free time and I was close to the clinic. 3

I have only gone to the dentist when I was told 4

94. When you last went on your own to the dental clinic, did you have any problems getting government transportation? 27/

Yes 1

No. 2

I did not need government transportation . .3

I have not gone on my own to a dentist. . .4

I do not remember 9

95. When you last went on your own to the dentist, did your supervisor (NCO or Officer) encourage you or make it difficult for you to go? 28/

Encouraged me to go 1

Made it difficult for me 2

Didn't care either way 3

A supervisor was not involved in my going 4

I have not gone on my own 5

I do not remember 9

DECK 02

PART THREE

BACKGROUND DATA

96. As far as you know, what was your father's main job while you were growing up? (If you do not know, circle "9".) 29/

Don't know. 9

97. As far as you know, what was your mother's main job while you were growing up? (If you do not know, circle "9".) 30/

Don't Know. 9

98. If you worked before you joined the Army, what was your main job? (If you did not have a job before the Army, circle "2".) 31/

Had No Job. 2

99. How old were you when you joined the Army? 32-33/

I was _____ years old.

100. As far as you know, what was the highest grade your father reached in his schooling? 34/

Some high school or less 1

High school graduate 2

Some college 3

College graduate 4

Post-graduate 5

Don't Know 9

101. As far as you know, what was the highest grade your mother reached in her schooling? 35/

Some high school or less 1

High school graduate 2

Some college 3

College graduate 4

Post-graduate 5

Don't Know 9

102. At this point, what is the highest grade you have reached in your schooling? 36/

Some high school or less 1

High school graduate 2

Some college 3

College graduate 4

Post-graduate 5

DECK 02

103. In your own words, why do you think many people don't go to Army dentists even when they've been told to? 37-38/

You have reached the end of the questionnaire. THANK YOU FOR YOUR HELP. If you have any questions or comments, please write them belo:.

PLEASE CHECK BACK THROUGH THE QUESTIONNAIRE TO MAKE SURE YOU HAVE NOT SKIPPED ANYTHING.

39-78=Blank
79-80/02

Columbia University is doing a study for the Army on Army dental care. We want to know about your experiences with Army dental care, and how you feel about Army dental care and looking after your teeth.

Taking part in this study is completely voluntary. Only people from Columbia University will see the questionnaire and your answers. Our report to the Army will be in the form of group statistics.

Read each question, decide on the best answer, circle the number you've chosen and then move on to the next question. In questions where it seems that more than one answer can describe your situation, or that no answer does, please circle only the <u>one</u> choice which comes closest to your feeling or experience.

Keep in mind that this is not a test, but a survey of your opinions. Where there are questions about things you have no experience with, just tell us what you think or believe, even if you don't know for sure.

Please answer every question. If you come across a problem with the questionnaire, raise your hand; one of us will try to help you.

NAME: _____

RANK: _____

SOCIAL SECURITY NO: _____

BEGIN DECK 01

Case Number [ ][ ][ ][ ] 1-4/

PART ONE

The following questions are about Army Dentists. Listed below are some of the things dentists can do for patients. For each item, if you think Army Dentists are "very good", circle the number "1". Where you think dentists are "somewhat good", circle the number "2". Circle the number "3" where you think they are "not good at all". These are matters of opinion, and we want to know what you believe.

In your opinion, how good are Army Dentists at each of the following:

		Very Good	Fairly Good	Not Good At All	
1.	Saving patients' teeth	1	2	3	5/
2.	Helping to prevent toothaches	1	2	3	6/
3.	Making teeth look better	1	2	3	7/
4.	Keeping down the pain of treatment	1	2	3	8/
5.	Showing that they care about their patients	1	2	3	9/
6.	Explaining the problems to their patients	1	2	3	10/
7.	Explaining what they are going to do to your mouth	1	2	3	11/

The next few questions are about dentists in general, both military and civilian. Again, circle the number that matches how good you think dentists are at each job listed.

In your opinion, how good are dentists in general (both military and civilian) at each of the following:

		Very Good	Fairly Good	Not Good At All	
8.	Saving patients' teeth	1	2	3	12/
9.	Helping to prevent toothaches	1	2	3	13/
10.	Making teeth look better	1	2	3	14/
11.	Keeping down the pain of treatment	1	2	3	15/
12.	Showing that they care about their patients	1	2	3	16/
13.	Explaining the problems to their patients	1	2	3	17/
14.	Explaining what they are going to do to your mouth	1	2	3	18/

15. If you had to see a dentist, and if there was no cost or if the costs were the same, to whom would you rather go? 19/

A civilian dentist 1

An Army dentist 2

Either dentist would be just as good . .3

16. How do you think the Army gets its dentists? 20/

The Army trains soldiers to be dentists .1

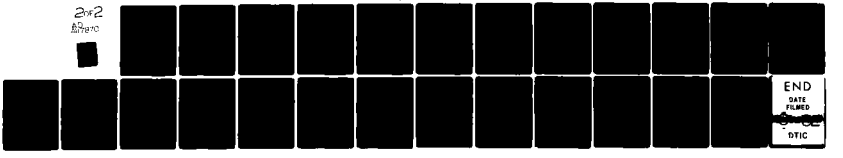
The Army recruits civilian dentists . .2

Don't Know 3

AD-A117 870 COLUMBIA UNIV NEW YORK CENTERS FOR COMMUNITY HEALTH F/G 6/5
RESEARCH AND DEVELOPMENT OF PSYCHOLOGICAL CONSIDERATIONS IN DEN--ETC(U)
MAY 82 S BUDNER, M O BERRY, N S BUDNER DAMD17-79-C-9140

UNCLASSIFIED NL

2 of 2
AD A117870



17. How often do you think a dentist who examines you can catch a problem before it begins to bother you? 21/

Most of the time 1

Sometimes. 2

Hardly ever, or never. 3

18. Do you think that you need a dental exam every year? 22/

Yes 1

No 2

19. When you go to the Army dental clinic for some dental work (to have teeth cleaned, filled, or pulled) is it usually easy or hard to get time off from your duties? 23/

Usually easy to get time off 1

Usually hard to get time off 2

Never went for dental work 3

20. Have you ever been given a hard time by any of the personnel in the dental clinic? 24/

Yes, often 1

Sometimes. 2

No, hardly ever or never 3

21. Have you ever had any problems getting government transportation to go to the dental clinic? 25/

Yes 1

No 2

Did not need government transportation .3

22. In your opinion, how healthy are your teeth and gums? 26/

Healthier than most people's 1

About the same as most people's . . .2

Not as healthy as most people's . . .3

The following questions are about dental problems. If you never had the problem the question asks about, you should circle the number "1". For those problems which you have had once or twice, circle the number "2". For those problems which you have had more than twice, circle "3". Please be sure that you have answered each question.

Have you had any of the following:

		Never	Once or Twice	More Than Twice	
23.	A toothache	1	2	3	27/
24.	A hole or cavity in any of your teeth	1	2	3	28/
25.	A broken tooth	1	2	3	29/
26.	Sore or bleeding gums	1	2	3	30/
27.	A tooth becoming loose	1	2	3	31/
28.	A tooth that changed color	1	2	3	32/
29.	Bad breath that you could not get rid of	1	2	3	33/
30.	A lost tooth	1	2	3	34/
31.	Problems with false teeth	1	2	3	35/

Now, for each of the same dental problems, we'd like to know how soon you would probably go to the dentist if you had it these days:

		Immediately	Sooner Or Later	Probably not At All	
32.	A toothache	1	2	3	36/
33.	A hole or cavity in any of your teeth	1	2	3	37/
34.	A broken tooth	1	2	3	38/
35.	Sore or bleeding gums	1	2	3	39/
36.	A tooth becoming loose	1	2	3	40/
37.	A tooth that changed color	1	2	3	41/
38.	Bad breath that you could not get rid of	1	2	3	42/
39.	A lost tooth	1	2	3	43/
40.	Problems with false teeth	1	2	3	44/
					45=Blank

41. How often do you brush your teeth? 46/

More than once a day 1

Once a day 2

Less than once a day 3

Hardly ever or never 4

42. How often do you use dental floss or a toothpick to clean your teeth? 47/

More than once a day 1

Once a day 2

Less than once a day 3

Hardly ever or never 4

43. While you were growing up, did your parents have you go to a dentist? 48/

I went regularly 1

Only when I had a problem 2

I never went 3

Not sure 9

44. While you were growing up, did your family go to a dentist? 49/

They went regularly 1

Only when they had a problem 2

They never went 3

Not sure 9

45. *Before you joined the Army*, how often did you go to a dentist just for a check-up, even though nothing was bothering you? 50/

At least once a year 1

Every couple of years. 2

Hardly ever 3

Never went just for a check-up . . .4

46. How does going to the dentist make you feel? 51/

Very nervous 1

Somewhat nervous 2

Not nervous at all 3

47. Have you ever been so nervous before going to the dentist, that you did not go? 52/

Never. 1

Only once or twice 2

Three or more times 3

48. How nervous are you about getting dental x-rays? 53/

Very nervous 1

Somewhat nervous 2

Not nervous at all 3

49. Is it painful to have a check-up done by the dentist? 54/

Yes 1

No 2

Do not know 3

50. Is it painful to have the dentist clean your teeth? 55/

Yes 1

No 2

Do not know 3

47. Have you ever been so nervous before going to the dentist, that you did not go? 52/

Never. 1

Only once or twice 2

Three or more times 3

48. How nervous are you about getting dental x-rays? 53/

Very nervous 1

Somewhat nervous 2

Not nervous at all 3

49. Is it painful to have a check-up done by the dentist? 54/

Yes 1

No 2

Do not know 3

50. Is it painful to have the dentist clean your teeth? 55/

Yes 1

No 2

Do not know 3

51. Is it painful to have fillings done by the dentist? 56/

Yes 1

No 2

Do not know 9

52. Is it painful to have a tooth pulled by the dentist? 57/

Yes 1

No 2

Do not know 9

53. How do you feel about the dentist giving you a needle? 58/

I do not want dental work unless the dentist gives me a needle 1

I don't have strong feelings about it . . .2

I can't stand having a needle 3

Next, we would like your opinions about Army dental care. For each statement, circle the number that shows how true you think it is, definitely, somewhat, or not at all.

In your opinion, how true are the following:

		Definitely True	Somewhat True	Not True At All	
54.	Army dentists have exactly the same training as civilian dentists.	1	2	3	59/
55.	Army dentists seem to have the same kind of equipment as civilian dentists.	1	2	3	60/
56.	Army dentists are more likely to pull teeth than civilian dentists.	1	2	3	61/
57.	Army dentists are more likely to cause pain than civilian dentists.	1	2	3	62/
58.	Personnel in the Army dental clinic act unpleasant.	1	2	3	63/
59.	The Army dental clinic gives a lot better care to officers than to enlisted men.	1	2	3	64/
60.	Friends of mine in the Army have had bad experiences with Army dental clinics.	1	2	3	65/
61.	My supervisor (NCO or Officer) discourages people from going to the dentist.	1	2	3	66/
62.	My buddies in the Army give me a hard time about going to a dentist.	1	2	3	67/

Listed below are different statements. Read each one carefully, and for each one, indicate the extent to which you agree with it, strongly, somewhat, or not at all.

To what extent do you agree with the following:

		Strongly Agree	Somewhat Agree	Not Agree At All	
63.	If I am going to have problems with my teeth or gums, I will have them no matter what I do.	1	2	3	68/
64.	It is important to me that people think I look attractive.	1	2	3	69/
65.	False teeth are as good as real teeth.	1	2	3	70/
66.	I never worry about how my teeth look.	1	2	3	71/
67.	In the long run, I will be better off if the dentist fixes my teeth rather than pulls them.	1	2	3	72/
68.	I care a lot about the way I look.	1	2	3	73/
69.	If I take care of my mouth and teeth, I will have less dental problems.	1	2	3	74/
70.	Losing all my real teeth would not bother me.	1	2	3	75/
71.	Having teeth that look good is important to me.	1	2	3	76

77-78=Blank
79-80/01

BEGIN DECK 02
1-4=Case #

To what extent do you agree with the following:

		Strongly Agree	Somewhat Agree	Not Agree At All	
5.	It is important that personnel get regular dental checkups.	1	2	3	5/
6.	There is no way to prevent dental emergencies among soldiers in the field.	1	2	3	6/
7.	Dental problems interfere with the capacity of soldiers in the field to carry out their duties.	1	2	3	7/
8.	A supervisor's responsibilities include encouraging personnel to maintain their dental health.	1	2	3	8/
9.	Dental emergencies make problems in the field.	1	2	3	9/
10.	Soldiers go to the Army dental service as an excuse to get off duty.	1	2	3	10/
11.	A dental emergency can affect a soldier's ability to carry out his duties as much as a medical emergency.	1	2	3	11/
12.	Regular dental care helps prevent dental emergencies among soldiers in the field.	1	2	3	12/

PART TWO

DECK 02

ARMY DENTISTRY PROCEDURES

The following series of questions are about your last Army dental check-up.

80. The last time you were notified to go for a dental check-up, what was the reason given for the check-up? 13/

- For my dental health 1
- Army policy 2
- No explanation or reason was given . .3
- I do not remember. 9

81. When you were last notified to go to the Post dental clinic for a dental check-up, was an appointment given to you? 14/

- Yes, I was given an appointment 1
- No, I was told to make an appointment . . .2
- I was just told to go to the Army dental clinic. 3
- I was told to go on sick call for a dental check-up 4
- I do not remember 9

82. When you last went to the dentist for a check-up, did your supervisor (NCO or officer) encourage you or make it difficult for you to go? 15/

- Encouraged me to go 1
- Made it difficult for me 2
- Did not care either way 3
- A supervisor was not involved in my going . .4
- I do not remember 9

83. When you got to the dental clinic, how long did you have to wait for your check-up by the dentist? 16/

Less than a half-hour 1

A half-hour to two hours 2

More than 2 hours 3

Had to come back another day for the check-up 4

84. After your last check-up, were you told you should come back for some dental work (to have your teeth cleaned, to have a filling, or any other dental work)? 17/

I was told to come back 1

I was told that my teeth were in good shape 2

I was not told anything either way. . . .3

I do not remember 9

85. If you were told to come back for dental work, were you told what the problem was? 18/

Yes 1

No 2

Had no problems 3

I was not told anything 4

I do not remember. 9

86. If you were told to come back for some dental work, were you worried or nervous about having to come back to the dentist? 19/

Yes 1

No 2

Had no problems 3

I do not remember. 9

87. After your last exam, did you believe what the dentist told you about your teeth? 20/

Yes 1

No 2

I was not told anything 3

I do not remember. 9

88. If you were told to come back for some dental work, did the dentist tell you it was important for you to get this dental work? 21/

Yes, he made it sound very important . . .1

No, he made it sound like it was not that important 2

Didn't need any dental work 3

I was not told anything 4

I do not remember 9

89. If you were told at your last check-up that you needed some dental work, were you given an appointment? 22/

Yes, I was given an appointment to see the dentist 1

No, I was told to set up an appointment for myself 2

I did not need any dental work 3

I was not told anything 4

I do not remember 9

90. If at your last check-up, you were told that you should get some dental work, did you have all this dental work done? 23/

Yes, I finished all the dental work . . .1

No, but I am still getting dental work. . .2

No, I could not get off duty/training . . .3

No, I transferred to another post 4

No, I could not stand the dental work . . .5

I did not need dental work. 6

I was not told anything 7

I do not remember 9

91. The last time you had an appointment for some dental work, did your supervisor (NCO or Officer) encourage you to go? 24/

Yes, encouraged me to go 1

No, made it difficult for me 2

No, did not care either way 3

A superior was not involved 4

Did not need dental work 5

I never had an appointment for dental work .6

I do not remember 9

The next set of questions are about visits to a dentist aside from those required by the Army.

92. While in the Army, and without being told by anyone, have you ever gone to a dentist simply because you felt you needed to go? 25/

- Yes, I went 1
- No, I never did 2

93. When you last went to a dentist <u>on your own</u>, what was the <u>main reason</u> for your going? 26/

- I had a toothache or some other problem . .1
- I felt it was time for a check-up 2
- I had some free time and I was close to the clinic. 3
- I have only gone to the dentist when I was told 4

94. When you last went on your own to the dental clinic, did you have any problems getting government transportation? 27/

- Yes 1
- No. 2
- I did not need government transportation . .3
- I have not gone on my own to a dentist. . .4
- I do not remember 9

95. When you last went on your own to the dentist, did your supervisor (NCO or Officer) encourage you or make it difficult for you to go? 28/

- Encouraged me to go 1
- Made it difficult for me 2
- Didn't care either way 3
- A supervisor was not involved in my going 4
- I have not gone on my own 5
- I do not remember 9

DECK 02

PART THREE

BACKGROUND DATA

96. As far as you know, what was your father's main job while you were growing up? (If you do not know, circle "9".) 29/

Don't know. 9

97. As far as you know, what was your mother's main job while you were growing up? (If you do not know, circle "9".) 30/

Don't Know. 9

98. If you worked before you joined the Army, what was your main job? (If you did not have a job before the Army, circle "2".) 31/

Had No Job. 2

99. How old were you when you joined the Army? 32-33/

I was _____ years old.

100. As far as you know, what was the highest grade your father reached in his schooling? 34/

Some high school or less 1
High school graduate 2
Some college 3
College graduate 4
Post-graduate 5
Don't Know 9

101. As far as you know, what was the highest grade your mother reached in her schooling? 35/

Some high school or less 1
High school graduate 2
Some college 3
College graduate 4
Post-graduate 5
Don't Know 9

102. At this point, what is the highest grade you have reached in your schooling? 36/

Some high school or less 1
High school graduate 2
Some college 3
College graduate 4
Post-graduate 5

103. In your own words, why do you think many people don't go to Army dentists even when they've been told to? 37-38/

You have reached the end of the questionnaire. THANK YOU FOR YOUR HELP. If you have any questions or comments, please write them below.

PLEASE CHECK BACK THROUGH THE QUESTIONNAIRE TO MAKE SURE YOU HAVE NOT SKIPPED ANYTHING.

39-78=Blank
79-80/02

INDICES

	SCORING		
	Strongly Agree	Somewhat Agree, N.I.	Not Agree at all
I. Importance of Preserving Natural Teeth			
Range: 3 = unimportant, 9 = important			
65. False teeth are as good as real teeth.	1	2	3
67. In the long run, I will be better off if the dentist fixes my teeth rather than pulls them.	3	2	1
70. Losing all my real teeth would not bother me.	1	2	3
II. Attitudes of Significant Others in the Army Toward Dental Care			
Range: 2 = discourage, 4 = encourage			
61. My supervisor (NCO officer) discourages people from going to the dentist.	1	1	2
62. My buddies in the Army give me a hard time about going to a dentist.	1	1	2
III. Concern about Appearance			
Range: 4 = not concerned, 12 = concerned			
64. It is important to me that people think I look attractive	3	2	1
66. I never worry about how my teeth look.	1	2	3
68. I care a lot about the way I look.	3	2	1
71. Having teeth that look good is important to me.	3	2	1
IV. Locus of Control for Dental Health			
Range: 2 = external, 4 = internal			
63. If I am going to have problems with my teeth or gums, I will have them no matter what I do.	1	2	3
69. If I take care of my mouth and teeth, I will have less dental problems.			
V. Dental Health Important in the Army			
Range: 3 = no, 9 = yes			
74. Dental problems interfere with the capacity of soldiers in the field to carry out their duties	3	2	1
76. Dental emergencies make problems in the field	3	2	1
78. A dental emergency can affect a soldier's ability to carry out his duties as much as a medical emergency.	3	2	1
VI. Importance of Dental Care in the Army			
Range: 3 = not important, 9 = important			
72. It is important that personnel get			

65. False teeth are as good as real teeth.	**1**	**2**	**3**
67. In the long run, I will be better off if the dentist fixes my teeth rather than pulls them.	3	2	1
70. Losing all my real teeth would not bother me.	1	2	3

II. Attitudes of Significant Others in the Army Toward Dental Care

Range: 2 = discourage
4 = encourage

61. My supervisor (NCO officer) discourages people from going to the dentist.	1	1	2
62. My buddies in the Army give me a hard time about going to a dentist.	1	1	2

III. Concern about Appearance

Range: 4 = not concerned
12 = concerned

64. It is important to me that people think I look attractive	3	2	1
66. I never worry about how my teeth look.	1	2	3
68. I care a lot about the way I look.	3	2	1
71. Having teeth that look good is important to me.	3	2	1

IV. Locus of Control for Dental Health

Range: 2 = external
4 = internal

63. If I am going to have problems with my teeth or gums, I will have them no matter what I do.	1	2	3
69. If I take care of my mouth and teeth, I will have less dental problems.			

V. Dental Health Important in the Army

Range: 3 = no
9 = yes

74. Dental problems interfere with the capacity of soldiers in the field to carry out their duties	3	2	1
76. Dental emergencies make problems in the field	3	2	1
78. A dental emergency can affect a soldier's ability to carry out his duties as much as a medical emergency.	3	2	1

VI. Importance of Dental Care in the Army

Range: 3 = not important
9 = important

72. It is important that personnel get regular check-ups.	3	2	1
75. A supervisor's responsibilities include encouraging personnel to maintain their dental health.	3	2	1
79. Regular dental care helps prevent dental emergencies among soldiers in the field.	3	2	1

(continued)

INDICES

(cont.)

	SCORING		
	Very Good	Fairly Good, N.I.	Not Good at all
VII. Technical Competence of Army Dentists. Range: 4 = low, 12 = high			
How good are Army dentists at:			
1. Saving patients' teeth?	3	2	1
2. Helping to prevent toothaches?	3	2	1
3. Making teeth look better?	3	2	1
4. Keeping down the pain of treatment?	3	2	1
VIII. Technical Competence of Dentists in General Range: as above			
How good are dentists in general at:			
8. Saving patients' teeth?	3	2	1
9. Helping to prevent toothaches?	3	2	1
10. Making teeth look better?	3	2	1
11. Keeping down the pain of treatment?	3	2	1
IX. Concern by Army Dentists with Patients. Range: 3 = not concerned, 9 = concerned			
How good are Army dentists at:			
5. Showing they care about their patients?	3	2	1
6. Explaining the problems to their patients?	3	2	1
7. Explaining what they are going to do to your mouth?	3	2	1
X. Concern by Dentists in General with Patients. Range: as above			
How good are dentists in general at:			
12. Showing that they care about their patients?	3	2	1
13. Explaining the problems to patients?	3	2	1
14. Explaining what they are going to do to your mouth?	3	2	1
XI. Dental Procedures Painful. Range: 4 = no, 12 = yes	Yes	Do Not Know	No
49. Is it painful to have a check-up done by the dentist?	3	2	1
50. Is it painful to have the dentist clean your teeth?	3	2	1
51. Is it painful to have fillings done by the dentist?	3	2	1
52. Is it painful to have a tooth pulled by the dentist?	3	2	1

(continued)

SCORING

	3	2	1
XII. Nervousness re Dental Procedures Range: 3 = no 9 = yes			
46. How does going to the dentist make you feel?	very nervous	somewhat nervous	not nervous at all
47. Have you ever been so nervous before going to the dentist, that you did not go?	three or more times	only once or twice	never
48. How nervous are you about getting dental x-rays?	very	somewhat	not at all

XIII. Preventive Dental Orientation
Range: 3 = low
10 = high

18. Do you think that you need a dental check-up every year?
Yes = 2
No, N.I. = 1

41. How often do you brush your teeth?
More than once a day = 4
Once a day = 3
Less than once a day = 2
Hardly ever or never = 1

42. How often do you use dental floss or a toothpick to clean your teeth?
Same as above.

XIV. Early (Pre-Army) Exposure to Dental Care.
Range: 3 = low
9 = high

43. While you were growing up, did your parents have you go to a dentist?
Regularly = 3
Only for problems, not sure = 2
Never = 1

44. While you were growing up, did your family go to a dentist?
Same as above.

45. Before you joined the Army, how often did you go to a dentist
Once a year = 3
Every couple of years, N.I. = 2
Hardly ever, never = 1

XIV. History of Dental Problems.
Range: 9 = low
27 = high

SCORING

Never = 1
Once or twice, N.I. = 2
More than twice = 3

Have you had any of the following:

Range: 3 = no
9 = yes

16. How does going to the dentist make you feel?

very nervous | somewhat nervous | not nervous at all

17. Have you ever been so nervous before going to the dentist, that you did not go?

three or more times | only once or twice | never

18. How nervous are you about getting dental x-rays?

very | somewhat | not at all

VIII. Preventive Dental Orientation

Range: 3 = low
10 = high

38. Do you think that you need a dental check up every year?

Yes = 2
No, N.I. = 1

41. How often do you brush your teeth?

More than once a day = 4
Once a day = 3
Less than once a day = 2
Hardly ever or never = 1

42. How often do you use dental floss or a toothpick to clean your teeth?

Same as above.

XIV. Early (Pre-Army) Exposure to Dental Care.

Range: 3 = low
9 = high

43. While you were growing up, did your parents have you go to a dentist?

Regularly = 3
Only for problems, not sure = 2
Never = 1

44. While you were growing up, did your family go to a dentist?

Same as above.

45. Before you joined the Army, how often did you go to a dentist

Once a year = 3
Every couple of years, N.I. = 2
Hardly ever, never = 1

XIV. History of Dental Problems.

Range: 9 = low
27 = high

SCORING

Never = 1
Once or twice, N.I. = 2
More than twice = 3

Have you had any of the following:

23. A toothache?
24. A hole or cavity in any of your teeth?
25. A broken tooth?
26. Sore or bleeding guns?
27. A tooth becoming loose?
28. A tooth that changed color?
29. Bad breath that you could not get rid of?
30. A lost tooth?
31. Problems with false teeth?

(continued)

INDICES

(cont.)

XV. Readiness to Go to a Dentist Because of Dental Problems.

Range: as above

SCORING

Immediately = 3
Sooner or later, N.I. = 2
Not at all = 1

Items as above.

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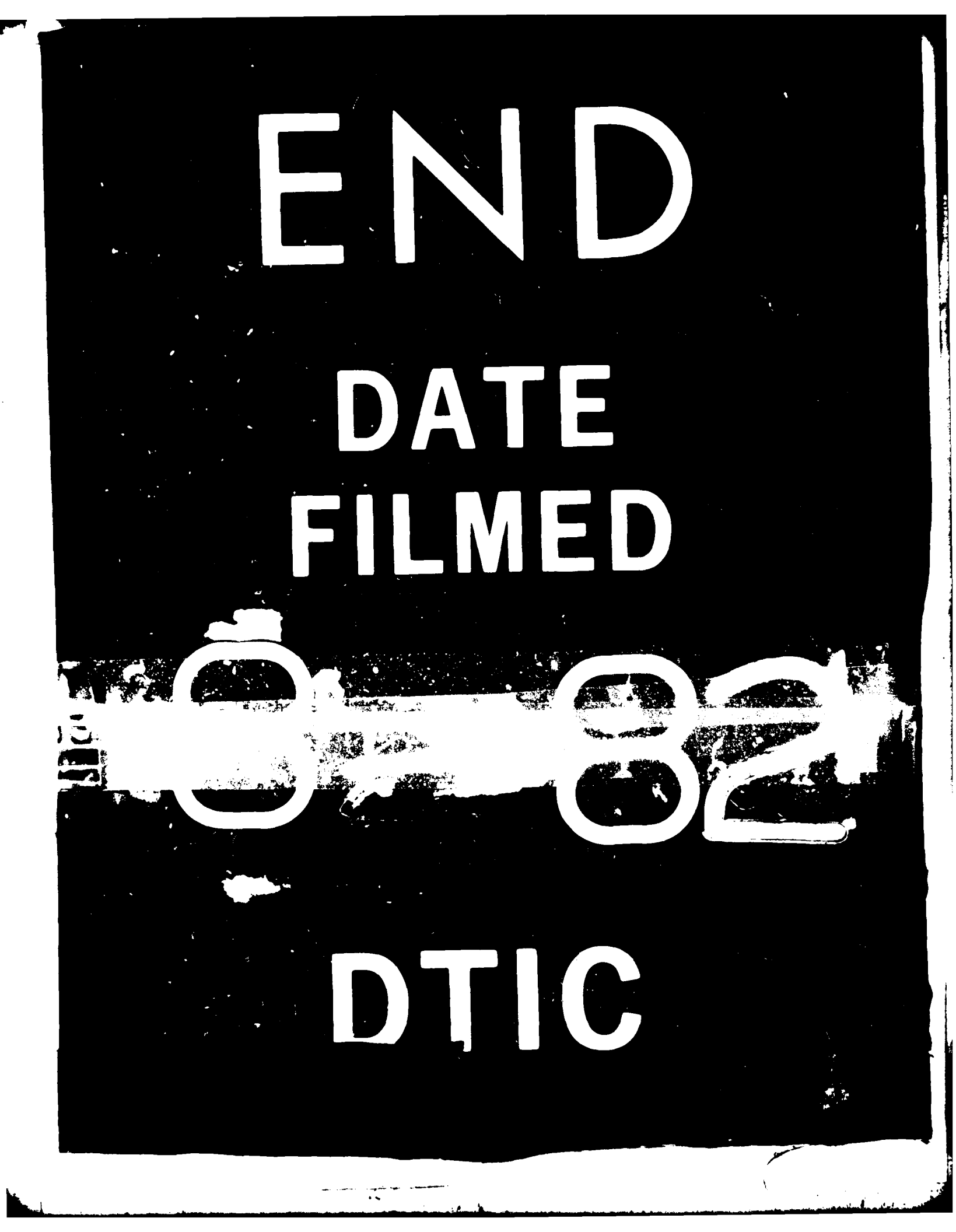
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